Main switches

Main switches

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Technical data as per DIN EN/IEC 60204, DIN EN/IEC 60947

Switch size			DK1	D1	D2	D3	DK4	D4	D5	D6	D7	DL8
ted insulating voltage (III/3)	U_i	V	690	690	690	690	690	690	690	690	690	1000
ted impulse voltage rigidity (III/3)	$U_{imp.}$	kV	6	6	6	6	6	6	6	6	6	8
Rated permanent current I_u switch insert, I_u under enclosure see ordering comments		A	25	25	40	63	80	100	125	200	250	400
Connectable cross sections single resp. multi-strand		mm^2	1–6	1–4	2,5–16	2,5–16	4–50	4–50	4–50	35–185	35–185	2 x 240 2)
fine wire with core end bush (DIN 46228)		mm^2	1–4	0,75–2,5	1,5–16	1,5–16	4–35	4–35	4–35	35–150	35–150	–
Short-circuit protection, fusible cut-out	(gL)	A max.	25	25	50	63	80	100	125	200	250	400
Requirements for isolators complied with up to		V~	690	480	690	690	690	690	690	690	690	1000
Switching capacity under alternating voltage conditions as per EN 60947-3												
Load break switches Rated operating current	I_e	**A**	**25**	**25**	**40**	**63**	**80**	**100**	**125**	**200**	**250**	**400**
Rated operating voltage	U_e	V~	690	690	690	690	690	690	690	690	690	690
Motor switches (main switches)	220...240 V, 3~	kW	5,5	5,5	7,5	11	18,5	22	30	55/45 4)	75/55 4)	110
	380...440 V, 3~	**kW**	**7,5**	**7,5**	**15**	**22**	**30**	**37**	**45**	**90/75** 4)	**132/110** 4)	**200**
	500 V, 3~	kW	–	–	18,5	30	37	45	55	110	160	250
	660...690 V, 3~	kW	7,5	–	15	18,5	22	30	37	55	75	160
Switching-off capacit	380...440 V, 3~	A	150	125	240	345	460	580	680	1355	1945	2944
AC-3 Motor switches, for operational switching	220...240 V, 3~	kW	4	4	7,5	11	15	18,5	22	45	55	–
	380...440 V, 3~	**kW**	**5,5**	**5,5**	**11**	**18,5**	**22**	**30**	**37**	**75**	**110**	**–**
	500 V, 3~	kW	–	7,5	15	22	30	37	45	90	132	–
	660...690 V, 3~	kW	5,5	7,5	15	18,5	20	22	30	45	55	–
			–	●	●	●	●	●	●	●	●	
Approbations												
Germ. Lloyd	600 Vac max., 3~	A	–	25	40	63	80	100	125	200	250	–
	240 V	hp	–	5	7,5	10	20	20	25	40	50	–
	480 V	hp	–	7,5	15	25	40	40	50	75	100	–
USA	600 V	hp	–	7,5	15	30	50	50	50	50	60	–
General U **Auxiliary switches as per DIN EN/ IEC 60947-5-1**												
Rated insulating voltage (III/3)	U_i	V	500	690								690
Rated impulse voltage rigidity (III/3)	$U_{imp.}$	kV	6	6								6
permanent current	I_u	A	10	10								25
AC-15 operating current at 220-240/380-440/500 V		A	6 / – / –	6 / 4 / 3								9 / 6 / 5
Short-circuit protection, fusible cut-out	(gL)	A max.	16	10								25
Connectable cross sections single resp. multi-strat fine wire with core end bush (DIN 46228)		mm^2	0,75–4	1–4	0,5–2,5							1–6
Approbations USA Pilot Duty		mm^2	0,75–2,5	0,75–2,5	0,5–2,5							0,75–4
			–	A 600	A 600							–

Technical data as per DIN EN/IEC 60204, DIN EN/IEC 60947

	DL9	NL 400	NL 630	V2N, R1	V3N, R2	R3	D3/D3	D4/D4	D5/D5	S1	S3N	S4N	S5N	S6N	S7N
	1000	1000	1000	690	690	690	690	690	690	690	690	690	690	690	690
	8	8	8	6	6	6	6	6	6	6	6	6	6	6	6
	630	400	630 3)	25 3)	32 3)	40 3)	63 3)	80 3)	110 3)	25 1)	40	63	80	125	160
	2 x 240 2)	–	–	–	–	–	–	–	–	1–4	1,5–16	1,5–16	6–70	6–70	6–70
	–	–	–	–	–	–	–	–	–	1–2,5	2,5–16	2,5–16	10–70	10–70	10–70
	630	400	630	25	35	63	80	125	160	25	50	63	80	125	160
	1000	1000	1000	480	480	690	690	690	690	690	690	690	690	690	690
	630 690	**400** 690	**630** 690	**25** 690	**32** 690	**40** 690	**63** 690	**80** 690	**110** 690	**25** 690	**40** 690	**63** 690	**80** 690	**125** 690	**160** 690
	110 **200** 250 160 2944	110 **200** 250 160 2944	110 **200** 250 160 2944	5,5 **11** – – 180	7,5 **15** – – 240	11 **18,5** 18,5 18,5 345	11 **22** 30 18,5 345	22 **37** 45 30 580	30 **45** 55 37 680	5,5 **11** 1) 11 7,5 180	11 **22** 22 18,5 328	15 **30** 30 22 440	22 **45** 37 37 648	37 **55** 45 45 792	45 **90** 55 55 1288
	– **–** – –	– **–** – –	– **–** – –	4 **7,5** 7,5 11	7,5 **11** 11 15	7,5 **15** 18,5 18,5	11 **18,5** 22 18,5	18,5 **30** 37 22	22 **37** 45 30	4 **7,5** 11 7,5	7,5 **18,5** 18,5 18,5	11 **22** 22 22	18,5 **37** 37 30	22 **45** 45 37	30 **55** 55 45
	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –	– – – –						
	690			690						500			DIN EN/IEC 61058-1 Rated voltage Tension		250 V~
	6			6						4					
	25			10						16			Rated currents Resistance load		
	9 / 6 / 5			6 / 4 / 3						6/4/3			Resistance load		5 A
	25			10						16					1 A
	1–6		0,75–4	1–6		2,5–6	0,5–2,5			0,5–2,5			Motor load		
	0,75–4		0,75–2,5	0,75–4		1,5–6	0,5–2,5			0,5–2,5					
	–		A 600	A 600		–	A 600			–					

1) see ordering comments 2) with DIN cable lug (3) by max. cross-section connection, see ordering comments 4) enclosed

General

The VDE specifications 0113 part 1 apply to the electrical equipment of machines.
This standard includes the German version of the European standard EN 60204 part 1: 1998. From DIN VDE 0113 result 3 types of switches:

1. Electrical equipment divider – Main switch

Each power supply must be provided with a hand-operated main switch. This main switch must break the whole electrical equipment of the machine from the power supply (e.g. for work on the electrical equipment).

- It shall be designed as disconnector according to EN 60947-3 to satisfy the exigencies of utilisation category AC-23B.
- It shall be hand-operated and may have only one "off" and one "on"-position which shall be marked clearly by 0 and I.
- It must have a visible switching-position-indicator which do only show the "off"-position when the distance between the contacts is in accordance with EN 60947-3.
- The handle should be black or grey.
- It shall be lockable in the "off"-position, e.g. by using padlocks.
- The handle of the main switch shall be easy-to-reach and located between 0.6 and 1.9 m above the access level.
- The breaking ability must be sufficient to break at the same time the current of the largest motor of the machine at stall and the sum of the currents of all other motors and/or load circuits.

2. Devices to be switched-off in case of emergency – Emergency-off equipment

Emergency-off mechanisms must be provided for each control desk and other work places, where an emergency-off might be required. They must engage
automatically and be easy-to-reach.

- The contacts of hand-operated emergency-off mechanisms shall separate consequently.
- The operating elements shall be RED. The background and the operating-part should be YELLOW.

3. Direct handling of electrical equipment divider in case of emergency –Main switch = Emergency-off switch

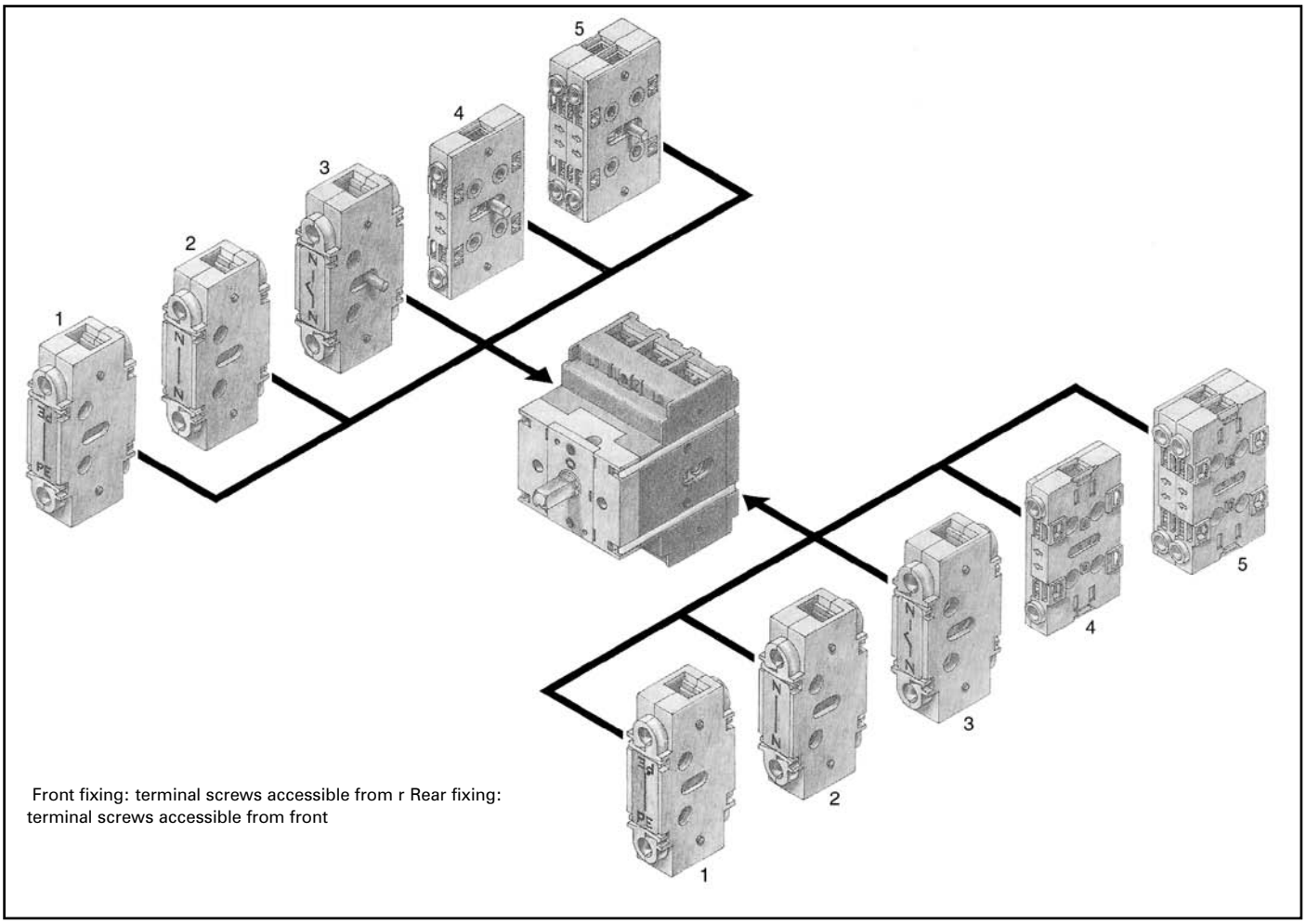
The electrical equipment divider must be easily reachable if it has to be directly operated in case of emergency.

- The colour-positioning should be RED/YELLOW.

Code for main switches

insolierter N PE-terminals	Auxiliary contact					
	without	1 S 1 NO	2 S 2 NO	1 Ö 1 NC	2 Ö 2 NC	1 S/1 Ö 1 NO/ 1 NC
without	00	06	12	18	24	30
with insulated N + PE terminal	01	07	13	19	25	31
with insulated N terminal	02	08	14	20	26	32
with insulated PE terminal	03	09	15	21	27	33
with disconnectable neutral conductor	04	10	16	22	28	34
with disconnectable neutral conductor and PE-terminal	05	11	17	23	29	35

Optional extras DK1–D7 – attachable

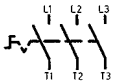
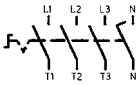


Element		1	2	3	4		5		
Functional diagram		PE-terminal	N-terminal	Neutral conductor, switchable	Auxiliary switch 1 S 1 NO	Auxiliary switch 1 Ö 1 NC	Auxiliary switch 1 S+1 Ö 1 NO+1 NC	Auxiliary switch 2 S 2 NO	Auxiliary switch 2 Ö 2 NC
DK1	Front fixing F	NPE 13 302 831	NPE 11 302 830	–	–	–	HCF 11 302 829	–	–
	Rear fixing NF	NPE 14 302 833	NPE 12 302 832	–	–	–	HCF 11 302 829	–	–
D2/D3	Front fixing F	NPE 23 131 497	NPE 21 131 492	NPE 25 131 486	HF 10 131 760	HF 01 131 761	HF 11 131 762	HF 20 131 763	HF 02 131 764
	Rear fixing NF	NPE 24 131 500	NPE 22 131 495	NPE 26 131 489	HC 10 131 765	HC 01 131 766	HC 11 131 767	HC 20 131 768	HC 02 131 769
DK4/D4/D5	Front fixing F	NPE 33 131 498	NPE 31 131 493	NPE 35 131 487	HF 10 131 760	HF 01 131 761	HF 11 131 762	HF 20 131 763	HF 02 131 764
	Rear fixing NF	NPE 34 131 501	NPE 32 131 496	NPE 36 131 490	HC 10 131 765	HC 01 131 766	HC 11 131 767	HC 20 131 768	HC 02 131 769
D6/D7	Front fixing F	NPE 434 131 499	NPE 412 131 494	NPE 45 131 488	HF 10 131 760	HF 01 131 761	HF 11 131 762	HF 20 131 763	HF 02 131 764
	Rear fixing EF	NPE 434 131 499	NPE 412 131 494	NPE 46 131 491	HC 10 131 765	HC 01 131 766	HC 11 131 767	HC 20 131 768	HC 02 131 769

Front fixing

Operating handle red – Face plate yellow RG

Operating handle black – Face plate black SS

	Circuit diagram	Switch size	Rated permanent current I_u	Switching capacity (EN 60947-3) kW/400 V 3~		IP 65	IP 65
						Front fixing **F** D	
			A	AC-3	AC-23A AC-23B	Type Ref. No.	Type Ref. No.
3 poles		DK1	25	5,5	7,5	DK1 00/HS-F35-D-RG 302 498	DK1 00/HS-F35-D-SS 303 300
		D2	40	11	15	D2 00/HS-F35-D-RG 3200 0220	D2 00/HS-F35-D-SS 3200 0221
		D3	63	18,5	22	D3 00/HS-F35-D-RG 3300 0220	D3 00/HS-F35-D-SS 3300 0221
		DK4	80	22	30	DK4 00/HS-F45-D-RG 3499 0501	DK4 00/HS-F45-D-SS 3499 0525
		D4	100	30	37	D4 00/HS-F45-D-RG 3400 0260	D4 00/HS-F45-D-SS 3400 0261
		D5	125	37	45	D5 00/HS-F45-D-RG 3500 0260	D5 00/HS-F45-D-SS 3500 0261
		D6	200	75	90	D6 00/HS-F55-D-RG 3600 0210	D6 00/HS-F55-D-SS 3600 0211
		D7	250	110	132	D7 00/HS-F55-D-RG 3700 0210	D7 00/HS-F55-D-SS 3700 0211
4 poles		DK1	25	5,5	7,5	DK1 04/HS-F35-D-RG 302 503	DK1 04/HS-F35-D-SS 303 299
		D2	40	11	15	D2 04/HS-F35-D-RG 3204 0220	D2 04/HS-F35-D-SS 3204 0221
		D3	63	18,5	22	D3 04/HS-F35-D-RG 3304 0220	D3 04/HS-F35-D-SS 3304 0221
		DK4	80	22	30	DK4 04/HS-F45-D-RG 3499 0507	DK4 04/HS-F45-D-SS 3499 0531
		D4	100	30	37	D4 04/HS-F45-D-RG 3404 0260	D4 04/HS-F45-D-SS 3404 0261
		D5	125	37	45	D5 04/HS-F45-D-RG 3504 0260	D5 04/HS-F45-D-SS 3504 0261
		D6	200	75	90	D6 04/HS-F55-D-RG 3604 0210	D6 04/HS-F55-D-SS 3604 0211
		D7	250	110	132	D7 04/HS-F55-D-RG 3704 0210	D7 04/HS-F55-D-SS 3704 0211

Dimensions page 29

Rear fixing

IP 65

IP 65

Operating handle red – Face plate yellow RG

Operating handle black – Face plate black SS

Rear fixing **NF/EF**		Rear fixing with door coupling and door interlock **NOF/EOF**		
Type Ref. No.	Type Ref. No.	Type Ref. No.	Type Ref. No.	D
DK1 00/HS-NF35-D-RG 303 301	DK1 00/HS-NF35-D-SS 303 302	DK1 00/HS-NOF35-D-RG 303 303	DK1 00/HS-NOF35-D-SS 303 304	
D2 00/HS-NF35-D-RG 3200 1220	D2 00/HS-NF35-D-SS 3200 1221	D2 00/HS-NOF35-D-RG 3200 8220	D2 00/HS-NOF35-D-SS 3200 8221	
D3 00/HS-NF35-D-RG 3300 1220	D3 00/HS-NF35-D-SS 3300 1221	D3 00/HS-NOF35-D-RG 3300 8220	D3 00/HS-NOF35-D-SS 3300 8221	
DK4 00/HS-NF45-D-RG 3499 0503	DK4 00/HS-NF45-D-SS 3499 0527	DK4 00/HS-NOF45-D-RG 3499 0505	DK4 00/HS-NOF45-D-SS 3499 0529	3 poles
D4 00/HS-NF45-D-RG 3400 1260	D4 00/HS-NF45-D-SS 3400 1261	D4 00/HS-NOF45-D-RG 3400 8260	D4 00/HS-NOF45-D-SS 3400 8261	
D5 00/HS-NF45-D-RG 3500 1260	D5 00/HS-NF45-D-SS 3500 1261	D5 00/HS-NOF45-D-RG 3500 8260	D5 00/HS-NOF45-D-SS 3500 8261	
D6 00/HS-EF55-D-RG 3600 1210	D6 00/HS-EF55-D-SS 3600 1211	D6 00/HS-EOF55-D-RG 3600 8210	D6 00/HS-EOF55-D-SS 3600 8211	
D7 00/HS-EF55-D-RG 3700 1210	D7 00/HS-EF55-D-SS 3700 1211	D7 00/HS-EOF55-D-RG 3700 8210	D7 00/HS-EOF55-D-SS 3700 8211	
DK1 04/HS-NF35-D-RG 303 307	DK1 04/HS-NF35-D-SS 303 308	DK1 04/HS-NOF35-D-RG 303 305	DK1 04/HS-NOF35-D-SS 303 306	
D2 04/HS-NF35-D-RG 3204 1220	D2 04/HS-NF35-D-SS 3204 1221	D2 04/HS-NOF35-D-RG 3204 8220	D2 04/HS-NOF35-D-SS 3204 8221	
D3 04/HS-NF35-D-RG 3304 1220	D3 04/HS-NF35-D-SS 3304 1221	D3 04/HS-NOF35-D-RG 3304 8220	D3 04/HS-NOF35-D-SS 3304 8221	
DK4 04/HS-NF45-D-RG 3499 0509	DK4 04/HS-NF45-D-SS 3499 0533	DK4 04/HS-NOF45-D-RG 3499 0511	DK4 04/HS-NOF45-D-SS 3499 0535	4 poles
D4 04/HS-NF45-D-RG 3404 1260	D4 04/HS-NF45-D-SS 3404 1261	D4 04/HS-NOF45-D-RG 3404 8260	D4 04/HS-NOF45-D-SS 3404 8261	
D5 04/HS-NF45-D-RG 3504 1260	D5 04/HS-NF45-D-SS 3504 1261	D5 04/HS-NOF45-D-RG 3504 8260	D5 04/HS-NOF45-D-SS 3504 8261	
D6 04/HS-EF55-D-RG 3604 1210	D6 04/HS-EF55-D-SS 3604 1211	D6 04/HS-EOF55-D-RG 3604 8210	D6 04/HS-EOF55-D-SS 3604 8211	
D7 04/HS-EF55-D-RG 3704 1210	D7 04/HS-EF55-D-SS 3704 1211	D7 04/HS-EOF55-D-RG 3704 8210	D7 04/HS-EOF55-D-SS 3704 8211	

When ordering, please state type and ref. no.
Dimensions page 30 - 31

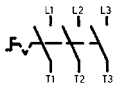
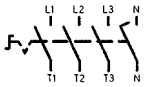
Main switches – Emergency-off switches

25–63 A

Single hole mounting

Operating handle red – Face plate yellow RG

Operating handle black – Face plate black SS

Circuit diagram	Switch size	Rated permanent current I_u	Switching capacity (EN 60947-3) kW/400 V 3~		IP 65	IP 65
					Single hole mounting **KZF** D	
		A	AC-3	AC-23A AC-23B	Type Ref. No.	Type Ref. No.
3 poles 	DK1	25	5,5	7,5	DK1 00/HS-KZF25-D-RG 303 309	DK1 00/HS-KZF25-D-SS 303 310
	D2	40	11	15	D2 00/HS-KZF25-D-RG 3200 9290	D2 00/HS-KZF25-D-SS 3200 9291
	D3	63	18,5	22	D3 00/HS-KZF25-D-RG 3300 9290	D3 00/HS-KZF25-D-SS 3300 9291
4 poles 	DK1	25	5,5	7,5	DK1 04/HS-KZF25-D-RG 303 311	DK1 04/HS-KZF25-D-SS 303 312
	D2	40	11	15	D2 04/HS-KZF25-D-RG 3204 9290	D2 04/HS-KZF25-D-SS 3204 9291
	D3	63	18,5	22	D3 04/HS-KZF25-D-RG 3304 9290	D3 04/HS-KZF25-D-SS 3304 9291

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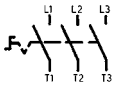
Mounting into DB

25–125 A

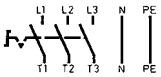
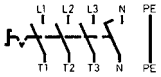
Operating handle black – Cover grey SM

Circuit diagram	Switch size	Rated permanent current I_u	Switching capacity (EN 60947-3) kW/400 V 3~		IP 30
					Mounting into distributors **V** BS
		A	AC-3	AC-23A AC-23B	Type Ref. No.
3 poles 	DK1	25	5,5	7,5	Auf Anfrage
	D2	40	11	15	D2 00/HS-V-BS-SM 3299 0068
	D3	63	18,5	22	D3 00/HS-V-BS-SM 3399 0050
	D4	100	30	37	D4 00/HS-V-BS-SM 3499 0067
	D5	125	37	18,5	D5 00/HS-V-BS-SM 3599 0074

When ordering, please state type and r

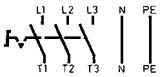
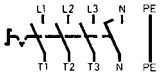
Dimensions page 34

Types

Circuit diagram	Switch size	Rated permanent current I_u A	Switching capacity (EN 60947-3) kW/400 V 3~ AC-3	AC-23A AC-23B	Number of chambers	Switching angle °	IP 54 Front fixing **F** D Type Ref. No.
	V2N	25	7,5	11	3	90	V2N 01/HS-F3-D-RG 141 839
	V3N	32	11	15	3	90	V3N 01/HS-F3-D-RG 146 343
	V2N	25	7,5	11	3	90	V2N 05/HS-F3-D-RG 141 841
	V3N	32	11	15	3	90	V3N 05/HS-F3-D-RG 146 345

Operating handle red – Face plate yellow RG

3-poles with neutral and protective terminals

Circuit diagram	Switch size	Rated permanent current I_u A	Switching capacity (EN 60947-3) kW/400 V 3~ AC-3	AC-23A AC-23B	Number of chambers	Switching angle °	IP 54 Front fixing **F** D Type Ref. No.
	V2N	25	7,5	11	3	90	V2N 01/HS-F3-D-SS 141 847
	V3N	32	11	15	3	90	V3N 01/HS-F3-D-SS 146 351
	V2N	25	7,5	11	3	90	V2N 05/HS-F3-D-SS 141 849
	V3N	32	11	15	3	90	V3N 05/HS-F3-D-SS 146 353

Operating handle black – Face plate black SS

Dimensions page 36

Construction features

The cam type disconnectors of the DL series comply with the requirements as per DIN EN 60204 part 1/VDE 0113 section 5.3 of hand-operated main switches.

According to EN 60947-3 disconnectors have to be rated to comply with utilization category AC-23B.

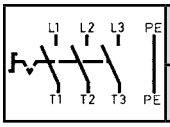
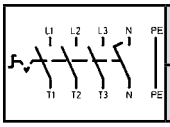
DL series switches comply with the isolator requirements according to VDE for 1000 V.

The connection terminals have individual terminal shrouds for connection to cable lugs and rails at the main supply.

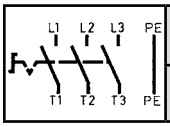
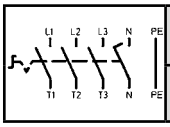
The double lever type handle DHV is equipped with an interlocking for
4 padlocks.

The switches can also be supplied in
4 poles execution with switchable neu-tral conductor and with auxiliary switch.

Operating handle red – Face plate yellow RG

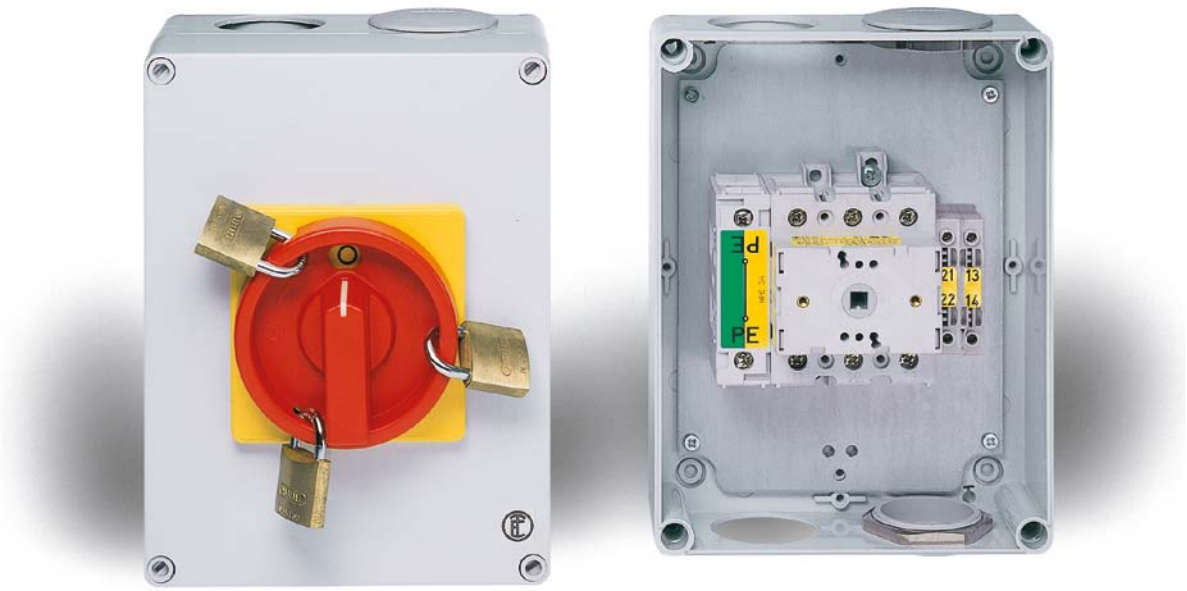
Circuit diagram	Switch size	Rated permanent current I_u A	Switching capacity (EN 60947-3) kW/400 V 3~ AC-23A AC-23B	IP 65 Front fixing **F55**	IP 65 Rear fixing with door coupling and door interlocking **PVF55**	
				DHV		
				Type Ref. No.	Type Ref. No.	
	DL8	400	200	DL8 03/HS-F55-DHV-RG 137 510	DL8 03/HS-PVF55-DHV-RG 137 511	3-poles
	DL9	630	200	DL9 03/HS-F55-DHV-RG 137 558	DL9 03/HS-PVF55-DHV-RG 137 559	
	DL8	400	200	DL8 05/HS-F55-DHV-RG 137 512	DL8 05/HS-PVF55-DHV-RG 137 513	4-poles
	DL9	630	200	DL9 05/HS-F55-DHV-RG 137 560	DL9 05/HS-PVF55-DHV-RG 137 561	

Operating handle black – Face plate black SS

Circuit diagram	Switch size	Rated permanent current I_u A	Switching capacity (EN 60947-3) kW/400 V 3~ AC-23A AC-23B	IP 65 Front fixing **F55**	IP 65 Rear fixing with door coupling and door interlocking **PVF55**	
				DHV		
				Type Ref. No.	Type Ref. No.	
	DL8	400	200	DL8 03/HS-F55-DHV-SS 137 514	DL8 03/HS-PVF55-DHV-SS 137 515	3 poles
	DL9	630	200	DL9 03/HS-F55-DHV-SS 137 562	DL9 03/HS-PVF55-DHV-SS 137 563	
	DL8	400	200	DL8 05/HS-F55-DHV-SS 137 516	DL8 05/HS-PVF55-DHV-SS 137 517	4 poles
	DL9	630	200	DL9 05/HS-F55-DHV-SS 137 564	DL9 05/HS-PVF55-DHV-SS 137 565	

Dimensions page 37

Construction features



The maintenance switch is an enclosed main switch with emergency-off function for an individual electrical load circuit.

Owing to the installation close to the motor or the load circuit, each operator can protect himself against unintentional and uncontrolled switching-on of the machine or installation by fixing his padlock (3 max.)

For a correct type selection it is important to determine the type according to the connnection capacity, switching capacity, cable cross section, size of enclosure and metric holes.

For these different operations we offer 3, 4 and 6 poles switch-gears with and without auxiliary contacts:

- in 3 and 4 poles execution rated 25–630 A
- in 6 pole execution rated 25–110 A

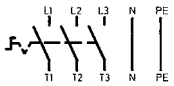
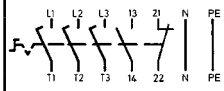
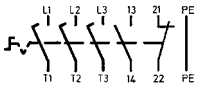
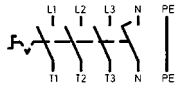
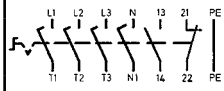
Plastic enclosure

IP 65

in plastic enclosure
T

Operating handle red – Face plate yellow RG

lockable in 0-position (max. 3 padlocks)

Circuit diagram	Switch size	Rated permanent current I_u 1) A	Switching capacity (EN 60947-3) kW/400 V 3~ AC-3	AC-23A AC-23B	Type Ref. No.	Size of enclosure	Cable hole dimensions	max.connectable crosssection mm²	
	V2N	25	7,5	11	V2N 01/HS-T24/2-D-MRG 143 083	T24/2	M 20	2,5	3 poles
	D2	32	11	15	D2 01/HS-T8/2-D-MRG 3299 0203	T8/2	M 25 M 20	4	
	D2	40	11	15	D2 01/HS-T5/6-D-MRG 3299 0205	T5/6	M 32	6	
	D3	63	18,5	22	D3 01/HS-T12/4-D-MRG 3399 0179	T12/4	M 32	10	
	V2N	25	7,5	11	V2N 31/HS-T25/2-D-MRG 143 187	T25/2	M 20	2,5	3 poles + 1 NO/1 NC
	D2	40	11	15	D2 31/HS-T5/7-D-MRG 3299 0210	T5/7	M 32 M 16	6	
	D3	63	18,5	22	D3 31/HS-T12/5-D-MRG 3399 0185	T12/5	M 32 M 16	10	
	D4	80	30	37	D4 33/HS-T12/7-D-MRG 3499 0187	T12/7	M 40 M 16	16	
	D5	110	37	45	D5 33/HS-T14/4-D-MRG 3599 0182	T14/4	M 50 M 16	35	
	D6	160	75	75	D6 33/HS-T55/6-D-MRG 3699 0111	T55/6	Ø 75 M 16	70	
	D7	250	110	110	D7 33/HS-T55/6-D-MRG 3799 0101	T55/6	Ø 75 M 16	120	
	V2N	25	7,5	11	V2N 05/HS-T24/2-D-MRG 143 188	T24/2	M 20	2,5	4 poles
	D2	32	11	15	D2 05/HS-T8/2-D-MRG 3299 0199	T8/2	M 25 M 20	4	
	D2	40	11	15	D2 05/HS-T5/6-D-MRG 3299 0211	T5/6	M 32	6	
	D3	63	18,5	22	D3 05/HS-T12/4-D-MRG 3399 0186	T12/4	M 32	10	
	V2N	25	7,5	11	V2N 35/HS-T25/2-D-MRG 143 189	T25/2	M 20	2,5	4 poles + 1 NO/1 NC
	D2	40	11	15	D2 35/HS-T5/7-D-MRG 3299 0212	T5/7	M 32 M 16	6	
	D3	63	18,5	22	D3 35/HS-T12/5-D-MRG 3399 0187	T12/5	M 32 M 16	10	
	D4	80	30	37	D4 35/HS-T12/7-D-MRG 3499 0188	T12/7	M 40 M 16	16	
	D5	110	37	45	D5 35/HS-T14/4-D-MRG 3599 0183	T14/4	M 50 M 16	35	
	D6	160	75	75	D6 35/HS-T55/6-D-MRG 3699 0112	T55/6	Ø 75 M 16	70	
	D7	250	110	110	D7 35/HS-T55/6-D-MRG 3799 0102	T55/6	Ø 75 M 16	120	

1) by max. cross-section connection

Other switching functions on request

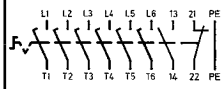
Dimensions page 38

Plastic enclosure

Operating handle red
– Face plate yellow RG

lockable in 0-position
(max. 3 padlocks)

6 poles + 1 NO/1 NC

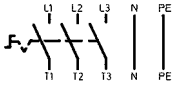
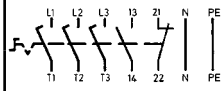
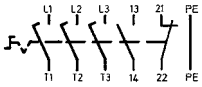
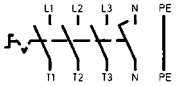


Circuit diagram	Switch size	Rated permanent current 1) I_u	Switching capacity (EN 60947-3) kW/400 V 3~		IP 65 in plastic enclosure **T**	Size of enclosure	Cable hole dimensions	max.connectable crosssection
		A	AC-3	AC-23A AC-23B	Type Ref. No.			mm^2
	R1	25	7,5	11	R1 33/HS-T25/2-D-MRG 137 693	T25/2	M 20	2,5
	R2	32	11	15	R2 33/HS-T27/3-D-MRG 137 694	T27/3	M 25	4
	R3	40	15	18,5	R3 33/HS-T20/7-D-MRG 137 695	T20/7	M 32 M 16	6
	D3/ D3	63	18,5	22	D3 30/HS D3 03/HS-T14/6-D-MRG 3399 0188	T14/6	M 40 M 16	16
	D4/ D4	80	30	37	D4 30/HS D4 03/HS-T14/6-D-MRG 3499 0189	T14/6	M 40 M 16	25
	D5/ D5	110	37	45	D5 30/HS D5 03/HS-T14/4-D-MRG 3599 0184	T14/4	M 50 M 16	35

Other switching functions on request

Dimensions page 38

Metal enclosure

Circuit diagram	Switch size	Rated permanent current 1) I_u A	Switching capacity (EN 60947-3) kW/400 V 3~ AC-3	AC-23A AC-23B	IP 65 Metal enclosure G/B Type Ref. No.	Size of enclosure	Cable hole dimensions	max.connectable crosssection mm²	Operating handle red – Face plate yellow RG lockable in 0-position (max. 3 padlocks)
	D1	25	5,5	7,5	D1 01/HS-G32/2-D-MRG 2) 3199 1104	G32/2	M 20	2,5	3 poles
	D2	32	11	15	D2 01/HS-G44/2-D-MRG 2) 3299 0213	G44/2	M 25	4	
	D2	40	11	15	D2 01/HS-G48/2-D-MRG 2) 3299 0214	G48/2	M 32	6	
	D3	63	18,5	22	D3 01/HS-G59/2-D-MRG 2) 3399 0189	G59/2	M 32 M16	10	
	D1	25	5,5	7,5	D1 31/HS-G32/2-D-MRG 2) 3199 1106	G32/2	M 20	2,5	3 poles + 1 NO/1 NC
	D2	32	11	15	D2 31/HS-G44/3-D-MRG 2) 3299 0217	G44/3	M 25 M 16	4	
	D2	40	11	15	D2 31/HS-G48/4-D-MRG 2) 3299 0218	G48/4	M 32 M 16	6	
	D3	63	18,5	22	D3 31/HS-G59/2-D-MRG 2) 3399 0191	G59/2	M 32 M 16	10	
	D4	80	30	37	D4 33/HS-B15/6-D-MRG 3) 3499 0190	B15/6	M 40 M 16	16	
	D5	110	37	45	D5 33/HS-B15/7-D-MRG 3) 3599 0185	B15/7	M 50 M 16	35	
	D6	160	75	75	D6 33/HS-B16/6-D-MRG 3) 3699 0113	B16/6	Ø 75 M 16	70	
	D7	250	110	110	D7 33/HS-B16/6-D-MRG 3) 3799 0103	B16/6	Ø 75 M 16	120	
	D1	25	5,5	7,5	D1 05/HS-G32/2-D-MRG 2) 3199 1105	G32/2	M 20	2,5	4 poles
	D2	32	11	15	D2 05/HS-G44/2-D-MRG 2) 3299 0215	G44/2	M 25	4	
	D2	40	11	15	D2 05/HS-G48/2-D-MRG 2) 3299 0216	G48/2	M 32	6	
	D3	63	18,5	22	D3 05/HS-G59/2-D-MRG 2) 3399 0190	G59/2	M 32 M16	10	

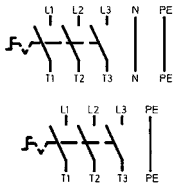
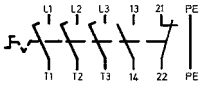
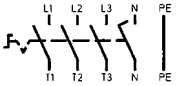
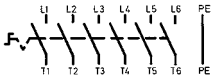
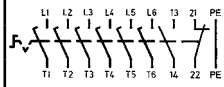
1) by max. cross-section
Dimensions page 39

2) Alu enclosure in RAL 7035

3) Sheet steel enclosure in RAL 7032

Metal enclosure

IP 65

	Circuit diagram	Switch size	Rated permanent current I_u A	Switching capacity (EN 60947-3) AC-3 kW/ 400 V 3~	in metal enclosure with interlocking (customer provided) Type	Ref. No.	Size of enclosure	Cable hole dimensions	. max. connectable crosssection mm²
3 poles		T 16	25	7,5	TAGK 16/3S	46 456	LG2/2	M 20	2,5
		T 32	45	15	TAGK 32/3S	46 445	LG44/3	M 32	6
		T 50	63	22	TAGK 50/3S	46 483	LG48/2	M 32	10
		T 80	100	30	TAGK 80/3S[1)]	46 480	LG59/6	M 40	25
		VN 125	150	55	VNAGK 125/3S[1)]	154 412	LG10/2	M 50	50
3 poles + 1 NO/1 NC		V3L	25	7,5	V3LAGK/3S	151 132	LG2/2	M 20	2,5
		VN 32	45	15	VNAGK 32/3S	148 701	LG44/3	M 32	6
		VN 50	63	22	VNAGK 50/3S	150 595	LG48/4	M 32/M 16	10
		VN 80	100	30	VNAGK 80/3S[1)]	152 479	LG59/3	M 40/M 16	25
		VN 125	150	55	VNAGK 125/3S[1)]	154 421	LG10/4	M 50/M 16	50
		NL400	400	200[3)]	NL 33/HS 400-LB2/3-EHD-MSI[4)]	139 728	LB2/3	Ø 75/ M 16	2 x 150
		NL630	630[2)]	200[3)]	NL 33/HS 630-LB2/3-KV-MSI[4)]	139 868	LB2/3	Ø 75/ M 16	2 x 150
4 poles		T 16	25	7,5	TA4GK 16/3S	46 453	LG2/2	M 20	2,5
		T 32	45	15	TA4GK 32/3S	46 450	LG44/3	M 32	6
		VN 50	63	22	VNA4GK50/3S	150 619	LG48/2	M 32	10
		T 80	100	30	TA4GK 80/3S[1)]	46 531	LG59/6	M 40	25
		VN 125	150	55	VNA4GK 125/3S[1)]	154 411	LG10/2	M 50	50
6 poles		V3L	25	7,5	V3LA6GK/3S	137 665	LG44/2	M 20	2,5
		VN 32	45	15	VNA6GK 32/3S	148 698	LG44/3	M 32	6
		VN 50	63	22	VNA6GK 50/3S	137 671	LG48/2	M 32	10
		VN 80	100	30	VNA6GK 80/3S[1)]	137 678	LG11/8	M 40	25
6 poles + 1 NO/1 NC		V3L	25	7,5	V3LA6GK/3S	137 661	LG44/6	M 20/M 16	2,5
		VN 32	45	15	VNA6GK 32/3S	148 721	LG48/4	M 32/M 16	6
		VN 50	63	22	VNA6GK 50/3S	137 669	LG48/4	M 32/M 16	10
		VN 80	100	30	VNA6GK 80/3S[1)]	137 680	LG59/3	M 40/M 16	25
		VN 125	150	55	VNA6GK 125/3S[1)]	137 699	LG10/4	M 50/M 16	50

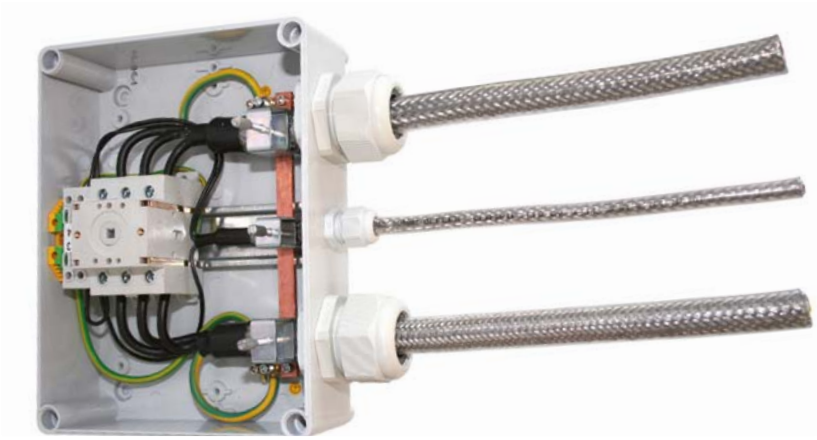
Protection IP 54
Other switching functions on request.
Dimensions page 117

1) by max. cross-section connection

3) AC-23A/AC-23B

Sheet steel enclosure in RAL 7032

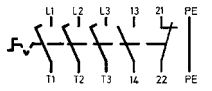
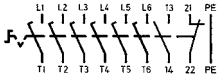
Dimensions page 39



The target of the Directive for electro-magnetic compati-bility is to assure that different kinds of devices are work-ing properly in an electro-magnetic environment.

A fault-free operation is required for electrical equip-ments in industrial process technology. The electro-magnetic shielding of conductors, especially of earth-ing is of big importance by the configuration of inter-ference-poor systems.

The connection used in our enclosures between cable-shield and enclosure-earthing is of low-resistance and shows a marginal inductive resistance. The connection is practice-oriented and made quickly thanks to shield-ing terminal-clamp.

Circuit diagram	Switch size	Rated permanent current	Switching capacity (EN 60947-3) kW/400 V 3~		IP 65 in plastic enclosure T	Size of enclosure	Cable hole dimensions	max.connectable crosssection	
		A	AC-3	AC-23A AC-23B	Type Ref. No.			mm²	
	D1	25	7,5	11	D1 33/HS-T51/4-D-MSS 308 912	T51/4	Ø 25	2,5	3 poles + 1 NO/1 NC
	D2	40	11	15	D2 33/HS-T72/4-D-MSS 308 913	T72/4	Ø 13 Ø 32	6	
	D3	63	18,5	22	D3 33/HS-T72/4-D-MSS 308 914	T72/4	Ø 13 Ø 32	10	
	R1	25	7,5	11	R1 33/HS-T70/2-D-MSS 308 915	T70/2	Ø 16 Ø 25 Ø 20	2,5	6 poles + 1 NO/1 NC
	D3	63	18,5	22	D3 03/HS D3 06/HS-T74/5-D-MSS 308 916	T74/5	Ø 40 Ø 10 Ø 16	10	

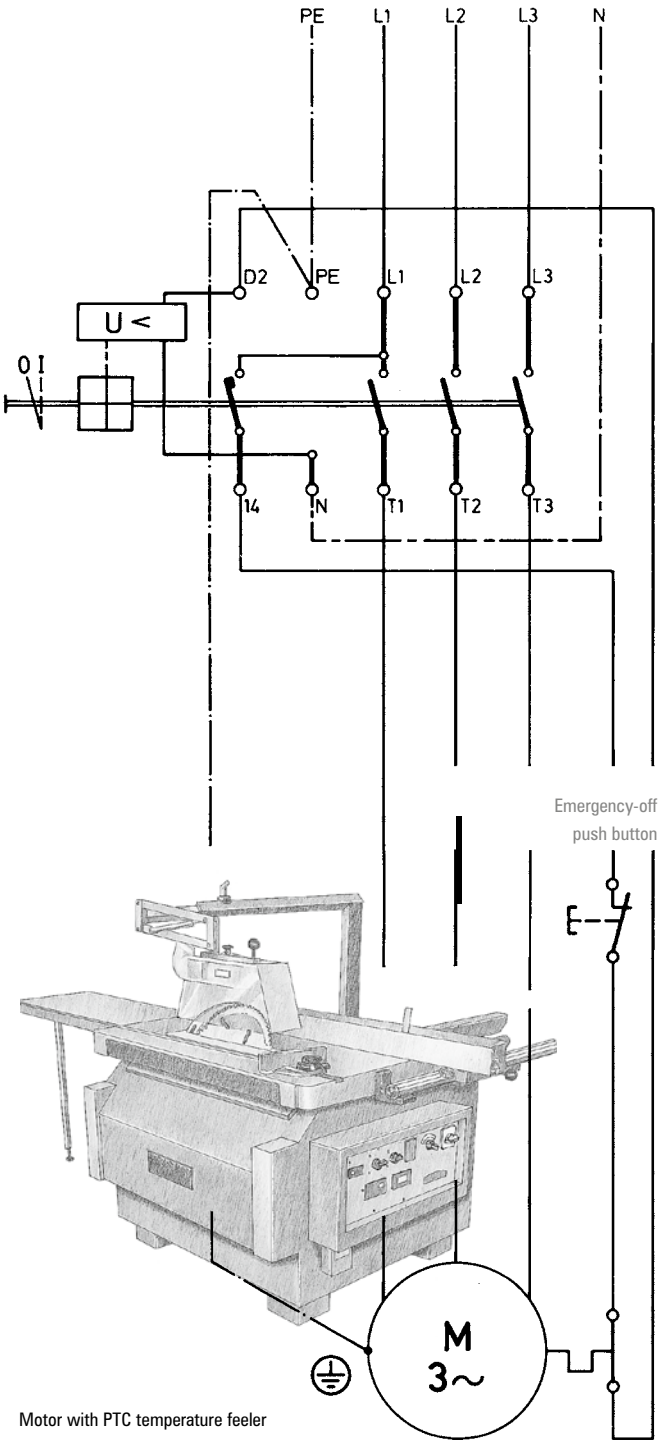
Operating handle
red – Face plate
yellow RG

lockable in 0-position
(max. 3 padlocks)

Dimensions page 38

Functional features

Undervoltage release



Motor with PTC temperature feeler

Protection against automatic restart after power failure and reappearance voltage

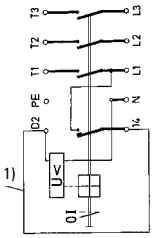
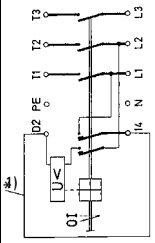
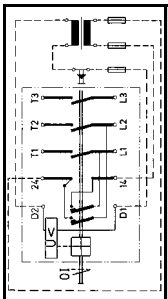
VDE specification 0113/
European standard DIN EN 60204 part 1 section 7.5:

"An automatical and unexpected re-start of the machine should be avoided after votage-return or switching on."

ELEKTRA main switches of the S series with undervol-tage release comply with this requirement owing to an undervoltage release coil which, after power failure, makes the switch jump back to the "off" position by means of a mechanism.

If the voltage has not been applied, the switch does not click.

For example, please see opposite functional diagram showing the incorporation of the emergency-off push button (NC contact) and PTC temperature feeler (NC contact) into the control circuit. The coil trips the main switch if the control circuit is interrupted.

Circuit diagram	Switch size	Rated permanent current I_u	Switching capacity (EN 60947-3)		IP 54	IP 54
			kW/400 V 3~		Front fixing **F**	
					D	
		A	AC-3	AC-23A AC-23B	Type Ref. No.	Type Ref. No.
 011	S1	25	7,5	11	S1 011/HS-F3-D-RG 134 369	S1 011/HS-F3-D-SS 134 371
	S3N	40	18,5	22	S3N 011/HS-F3-D-RG 135 012	S3N 011/HS-F3-D-SS 135 020
	S4N	63	22	30	S4N 011/HS-F3-D-RG 151 502	S4N 011/HS-F3-D-SS 151 510
	S5N	80	37	45	S5N 011/HS-F4-D-RG 135 186	S5N 011/HS-F4-D-SS 135 187
	S6N	125	45	55	S6N 011/HS-F4-D-RG 150 801	S6N 011/HS-F4-D-SS 150 805
	S7N	160	55	90	S7N 011/HS-F4-D-RG 135 321	S7N 011/HS-F4-D-SS 135 320
 013	S1	25	7,5	11	S1 013/HS-F3-D-RG 134 401	S1 013/HS-F3-D-SS 134 403
	S3N	40	18,5	22	S3N 013/HS-F3-D-RG 135 014	S3N 013/HS-F3-D-SS 135 022
	S4N	63	22	30	S4N 013/HS-F3-D-RG 151 504	S4N 013/HS-F3-D-SS 151 512
	S5N	80	37	45	S5N 013/HS-F4-D-RG 135 179	S5N 013/HS-F4-D-SS 135 188
	S6N	125	45	55	S6N 013/HS-F4-D-RG 150 802	S6N 013/HS-F4-D-SS 150 806
	S7N	160	55	90	S7N 013/HS-F4-D-RG 135 322	S7N 013/HS-F4-D-SS 135 324
 024	S1	25	7,5	11	S1 024/HS-F3-D-RG 134 431	S1 024/HS-F3-D-SS 134 432

Operating handle red – Face plate yellow RG

Operating handle black – Face plate black SS

Operating voltage 400 V, coil voltage 230 V 50 Hz

Operating voltage 400 V, coil voltage 400 V 50 Hz

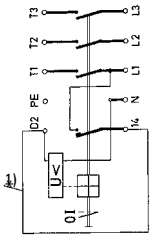
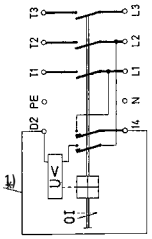
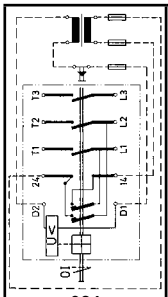
for control line transformer, coil voltage 230 V 50 Hz secondary

1) After removing the connection (14–D2), customer-provided switching elements (NC) can be connected, e.g. emergency-off push button

Dimensions page 40

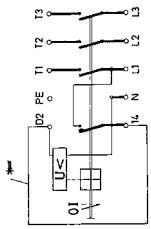
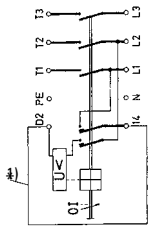
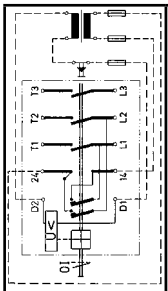
Operating handle red – Face plate yellow RG

Operating handle black – Face plate black SS

Circuit diagram	Switch size	Rated permanent current I_u	Switching capacity (EN 60947-3)		IP 54	IP 54
			kW/400 V 3~		Rear fixing **NF/EF**	
					D	
		A	AC-3	AC-23A AC-23B	Type Ref. No.	Type Ref. No.
Operating voltage 400 V, coil voltage 230 V 50 Hz						
 011	S1	25	7,5	11	S1 011/HS-NF3-D-RG 134 377	S1 011/HS-NF3-D-SS 134 379
	S3N	40	18,5	22	S3N 011/HS-NF3-D-RG 135 016	S3N 011/HS-NF3-D-SS 135 024
	S4N	63	22	30	S4N 011/HS-NF3-D-RG 151 506	S4N 011/HS-NF3-D-SS 151 514
	S5N	80	37	45	S5N 011/HS-EF4-D-RG 135 177	S5N 011/HS-EF4-D-SS 135 178
	S6N	125	45	55	S6N 011/HS-EF4-D-RG 150 803	S6N 011/HS-EF4-D-SS 150 807
	S7N	160	55	90	S7N 011/HS-EF4-D-RG 135 323	S7N 011/HS-EF4-D-SS 135 325
Operating voltage 400 V, coil voltage 400 V 50 Hz						
 013	S1	25	7,5	11	S1 013/HS-NF3-D-RG 134 409	S1 013/HS-NF3-D-SS 134 411
	S3N	40	18,5	22	S3N 013/HS-NF3-D-RG 135 018	S3N 013/HS-NF3-D-SS 135 026
	S4N	63	22	30	S4N 013/HS-NF3-D-RG 151 508	S4N 013/HS-NF3-D-SS 151 516
	S5N	80	37	45	S5N 013/HS-EF4-D-RG 135 180	S5N 013/HS-EF4-D-SS 135 189
	S6N	125	45	55	S6N 013/HS-EF4-D-RG 150 804	S6N 013/HS-EF4-D-SS 150 808
	S7N	160	55	90	S7N 013/HS-EF4-D-RG 135 319	S7N 013/HS-EF4-D-SS 135 326
for control line transformer, coil voltage 230 V 50 Hz secondary						
 024	S1	25	7,5	11	S1 024/HS-NF3-D-RG 134 435	S1 024/HS-NF3-D-SS 134 436

Dimensions page 41

Plastic enclosure

Circuit diagram	Switch size	Rated permanent current I_u	Switching capacity (EN 60947-3)				Size of enclosure
					IP 65	IP 65	
					in plastic enclosure **T**		
			kW/400 V 3~		D		
		A	AC-3	AC-23A AC-23B	Type Ref. No.	Type Ref. No.	
 011	S1	25	7,5	11	S1 011/HS-T8/2-D-MRG 188 604	S1 011/HS-T8/2-D-MSS 188 628	T8/2
	S3N	40	18,5	22	S3N 011/HS-T20/6-D-MRG 152 024	–	T20/6
 013	S1	25	7,5	11	S1 013/HS-T8/2-D-MRG 188 627	S1 013/HS-T8/2-D-MSS 188 629	T8/2
	S3N	40	18,5	22	S3N 013/HS-T20/6-D-MRG 152 025	–	T20/6
 024	S1	25	7,5	11	S1 024/HS-T8/2-D-MRG 188 660	–	T8/2

Operating handle red – Face plate yellow RG

Operating handle black – Face plate black SS

Operating voltage 400 V, coil voltage 230 V 50 Hz

Operating voltage 400 V, coil voltage 400 V 50 H

for control line transformer, coil voltage 230 V 50 Hz secondary

1) After removing the connection (14–D2), customer-provided switching elements (NC) can be connected, e.g. emergency-off push button

Dimensions page 38

With CEE plugs and sockets and undervoltage release

Emergency-off switches, with undervoltage release, according to VDE 0113/DIN EN 60204 part 1, coil tension 230 V, 50 Hz

The VDE specifications 0113/DIN EN 60204 part 1 have been taken in consideration for these devices. It is stated there in section 7.5 „Protection against automatic restart after mains failure and voltage return“:
„An automatical and unexpected restart of the machine should be avoided after voltage-return or switching on.“

Enclosure grey, Cover yellow, handle red

Rated permanent current I_u A	Max. switching capacity AC-3 kW/400 V 3~	IP 44 in plastic enclosure with CEE plug and undervoltage release		Rated permanent current I_u A	Max. switching capacity AC-3 kW/400 V 3~	IP 44 in plastic enclosure with earth contact plug and undervoltage release	
		Type	Ref. No.			Type	Ref. No.
16	2,2	CGF2 01 316/6h-CT7/6-SE-GRX	158 102	16	2,2	SGS1 201-ST8/2-S-GRX	188 643
		Main switch/ Emergency-off switch 1-lockable in 0-position 3-polig poles: 2 P +				Emergency-off switch poles: 2 P +	

Enclosure grey, Cover yellow, handle red

Rated permanent current I_u A	Max. switching capacity AC-3 kW/400 V 3~	IP 44 in plastic enclosure with CEE plug as phase-inverter and undervoltage release		Rated permanent current I_u A	Max. switching capacity AC-3 kW/400 V 3~	IP 44 in plastic enclosure with CEE plug and undervoltage release	
		Type	Ref. No.			Type	Ref. No.
16	7,5	CGS1 011 516P/ 6h-CT8/2-SE-GRX	188 623	16	7,5	CGS1 011 516/ 6h-CT8/2-S-GRX	188 651
		Main switch/Emergency-off switch Lockable in 0-position 5- poles: 3 P + N + 400 V, 50 Hz				Emergency-off switch 5-poles: 3 P + N + 230 V, 50 Hz	
				16	7,5	CGS1 013 516/ 6h-CT8/2-S-GRX	188 652
						Emergency-off switch 5- poles: 3 P + N + 400 V, 50 Hz	

Kind of protection of the switches only in vertical mounting position.

Dimensions page 121

Basic types

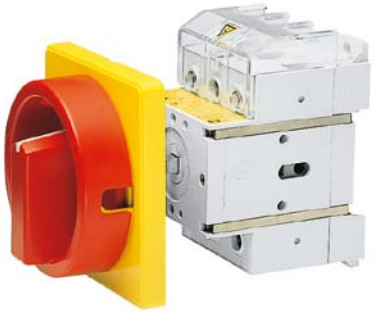
Type D2 00/HS-F35-D-RG

Front fixing F

S
Switch for front fixing.
Switch sizes DK1–D5 with 2-point-fixing, D6–D7 with 4-point-fixing.
Terminal screws accessible from rear.
Terminal shroud with warning symbol.
Interlocking by padlocks resp. for 3 padlocks D.

Dimensions page 29

Type D2 00/HS-NF35-D-RG



Rear fixing NF/EF

S
Switch for rear fixing.
Switch sizes DK1–D5 with screw fixing and integrated snap-on fixing NF,
D6–D7 with screw fixing EF.
Terminal screws accessible from front.
Terminal shroud with warning symbol.
Front unit see type F.

Dimensions page 30

Type D2 00/HS-NOF35-D-RG

Rear fixing with door coupling and door interlock NOF/EOF

Switch for rear fixing.
Switch sizes DK1–D5 with screw fixing and with integrated snap-on fixing NOF,
D6–D7 with screw fixing EOF. Terminal screws accessible from the front. Terminal shroud with warning symbol. Coupling drive in door or cover with centering adjustment. Front unit see type F.

Dimensions page 31

Typ Type D2 00/HS-KZF25-D-RG

Single hole mounting KZF

Central fixing for mounting hole Ø 22,5 mm. "One-person-installation": The complete front unit with plug-in shaft is fixed in the mounting wall. The switch block is interlocked by a lever. For central fixing Ø 30,5 mm, a metal ring will be available as accessory. Terminal shroud with warning symbol.
Switch sizes DK1–D3.

Dimensions page 32

Basic types

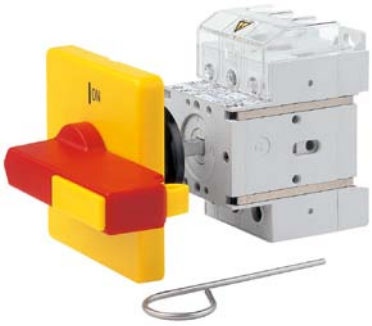
Type D2 00/HS-V-BS-SM

Mounting into distributors V

Flush mounting switch for distributors with 45 mm standard cut-out.
Snap-on fixing on standard rail according to EN 50022.
Type V-BS with interlocking by 1 padlock.
Switch sizes DK1 – D5.

Dimensions page 34

Type D2 00-NOZ37W-BLS-RG9



Single hole mounting with door coupling and door unlocking NOZ

Switch for rear fixing.
Coupling drive in door or cover with single hole mounting for standard drilling of Ø 22 mm. Opening the door while switched-on can be done by releasing the interlocking system through a pin.
Lockable with max. 2 padlocks.

Dimensions page 33

Optional extras – can not be mounted later on

Type D7 00/HS-F55-D-SS

Busbar connection for switch sizes D6/D7 at 200/250 A

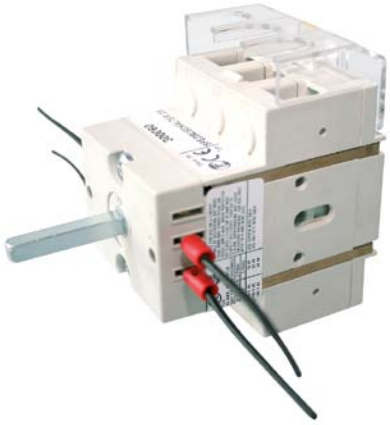
On request, the switch sizes D6 and D7 are available with connecting rails for connection of cable lugs. The terminal shroud serves as protection of the connecting rail against direct contacts. This possible connection may be chosen irrespective of the type.

Dimensions page 35

Type D5 00/HS-F45-D-RG

Additional terminal for control circuit for switch sizes D4–D7

or control circuits, there exists partially the requirement that also after breaking of the main circuit the voltage supply shall be ensured. Each connection point of the switch, therefore can be supplied with an additional terminal, separate from the main circuit connection. Maximum cross section of the additional terminal 2,5 mm^2 solid and flexible. The additional terminal can be supplied irrespective of the type. The terminal shroud serves at the same time as protection against contact of the additional terminal.



Function of auxilary contact

In addition to our laterally fixed auxiliary contacts, there is the possibility to have micro-switches (changer) built into the switch-block of our D-switch series. An exactly reproducible contact making is possible with these contacts, as required for example for PLC devices. The connection is made at the side of the switch by about 2,8 mm over the flat pin bushing.

Plate black

Letters white

16 x 48 mm Best.-Nr. Ref. No. 133 901 21 x 65 mm Best.-Nr. Ref. No. 133 904

Plate yellow

Letters black

16 x 48 mm Best.-Nr. Ref. No. 133 903 21 x 65 mm Best.-Nr. Ref. No. 133 906

Heading plate

Plate silver

Letters black

16 x 48 mm Best.-Nr. Ref. No. 133 902
21 x 65 mm Best.-Nr. Ref. No. 133 905

Single hole mounting KZF

Central fixing for mounting hole Ø 22,5 mm. ”One-person-installation“: The complete front unit with plug-in shaft is fixed in the mounting wall. The switch block is interlocked by a lever. For central fixing Ø 30,5 mm, a metal ring will be available as acces-sory. Terminal shroud with warning symbol. Switch sizes DK1 – D3.

Ref. No. 134 353

Additional fixing ring for single hole mounting KZF for mounting hole

Ø 30,5 mm

More explanations see

Dimensions page 32

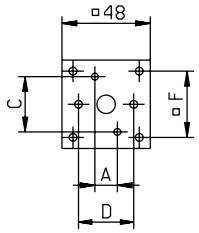
Dimensions

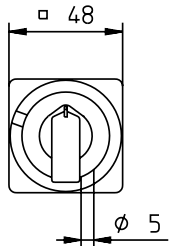
Dimensions in mm

Front plate

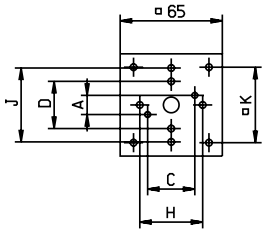
Interlocking by 3 padlocks **D**

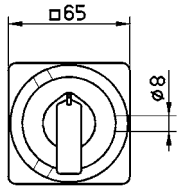
F1



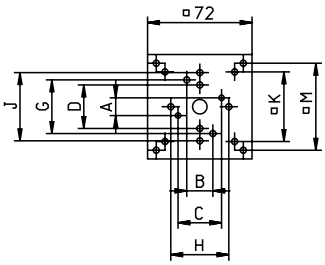


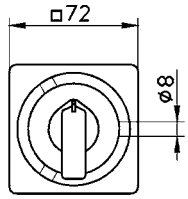
F2



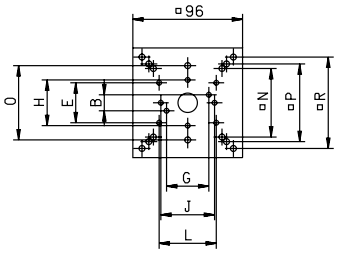


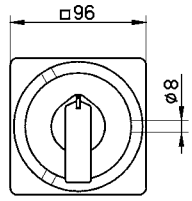
F3



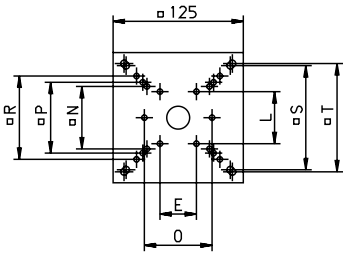


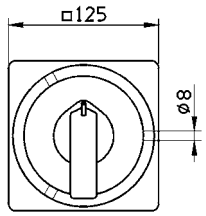
F4





F5



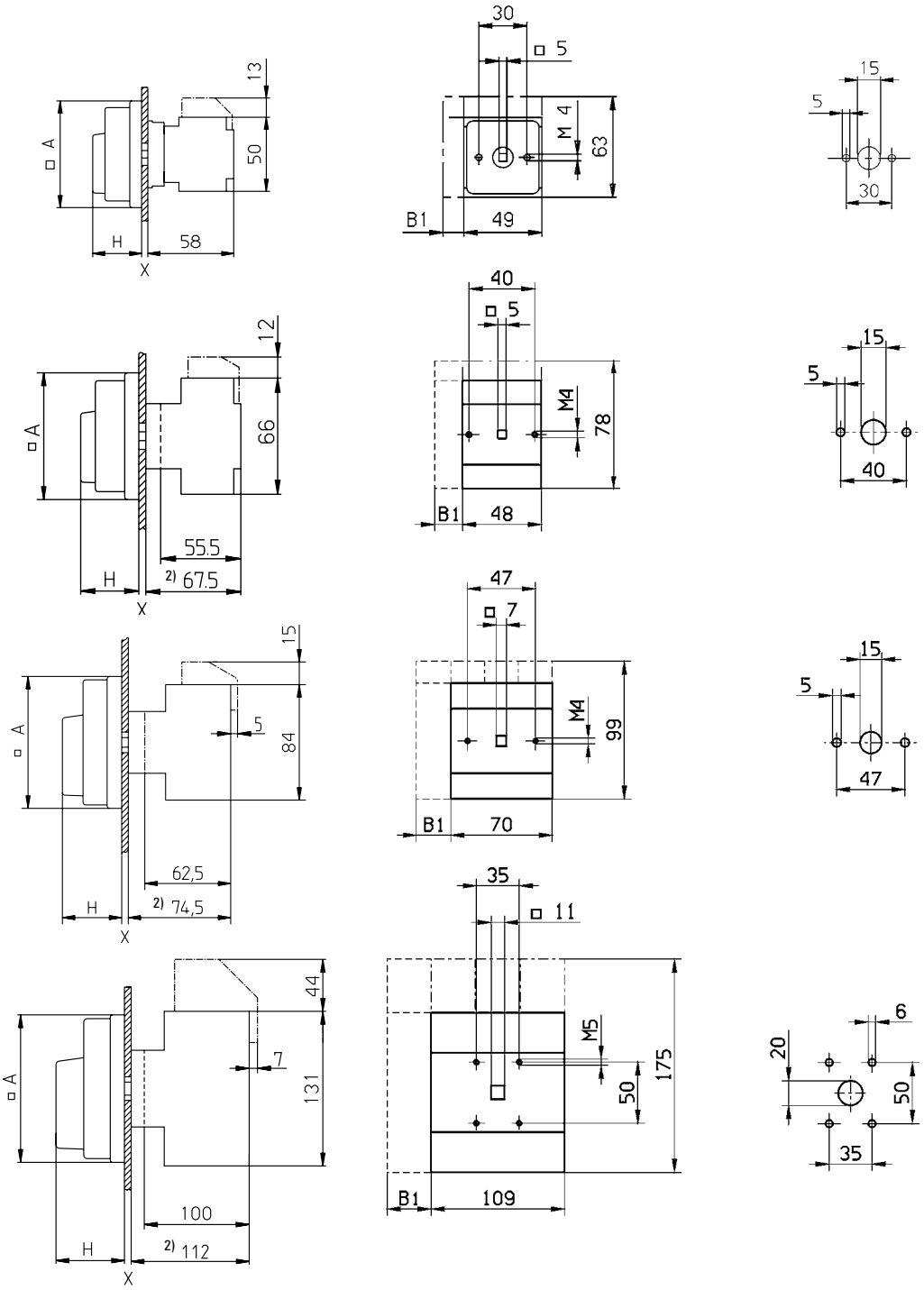


	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T
Dimensions	12,2	14	30	30	35	36	37	40	47	48	50	60	60	65	68	80	100	104
Hole Ø	3,7	4,2	3,7	4,2	5,2	4,2	4,2	4,2	4,2	4,2	5,2	4,2	5,2	5,2	5,2	5,2	6,5	6,5

Dimensions

Front fixing F

Insert | Front view | Panel drilling | Dimensions in mm



Typ Type	D		$X_{max.}$	Teil Element B_1 1)		
	A	H		1–3	4	5
DK1	72	34	4	13	–	11
D2/D3	72	34	4	17	11	19
DK4/D4/D5	96	44	4	24	11	19
D6/D7	125	60	4	36	11	19

1) see page 7

2) with cam-controlled auxiliary contacts

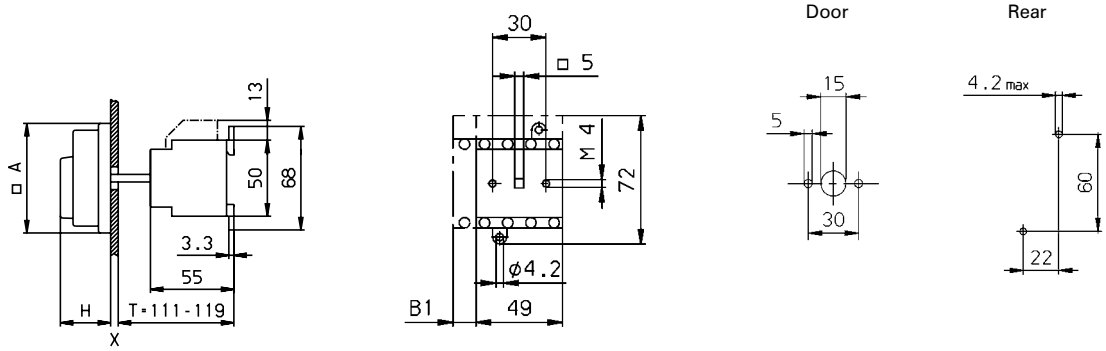
Dimensions

Rear fixing NF/EF

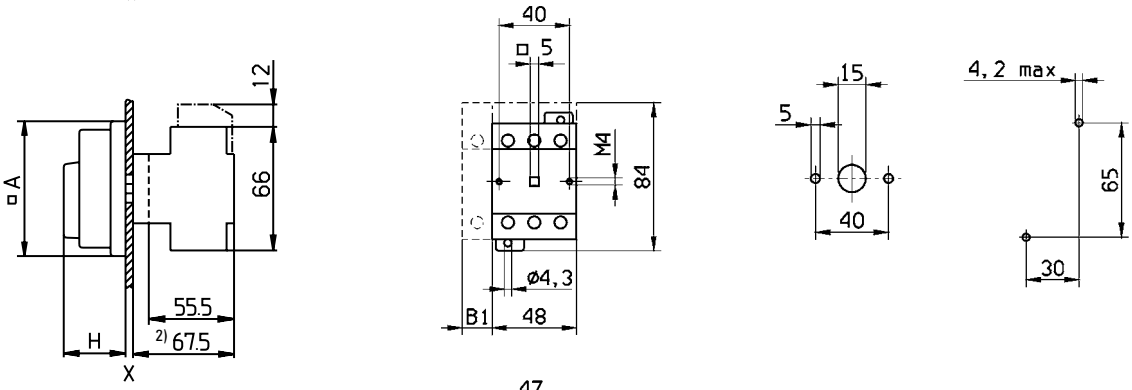
Dimensions in mm

Insert | Front view | Drillings: Door | Rear

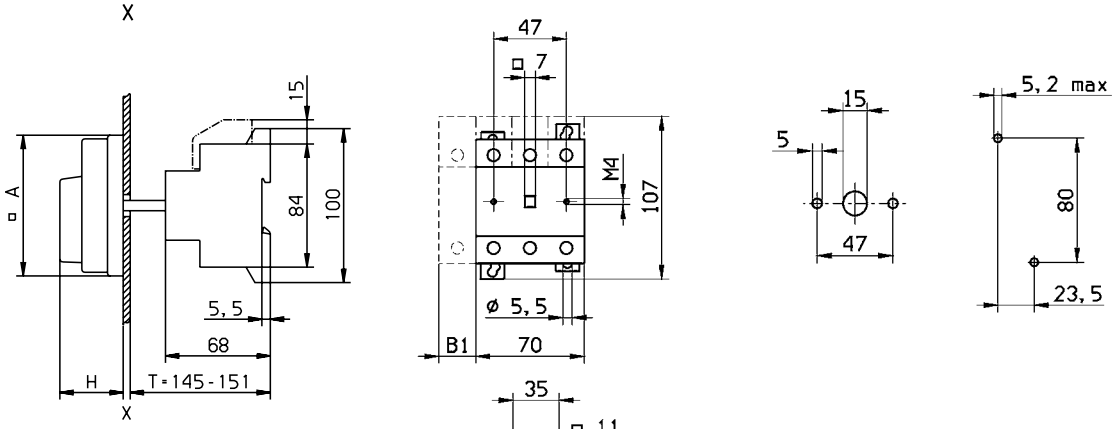
DK1



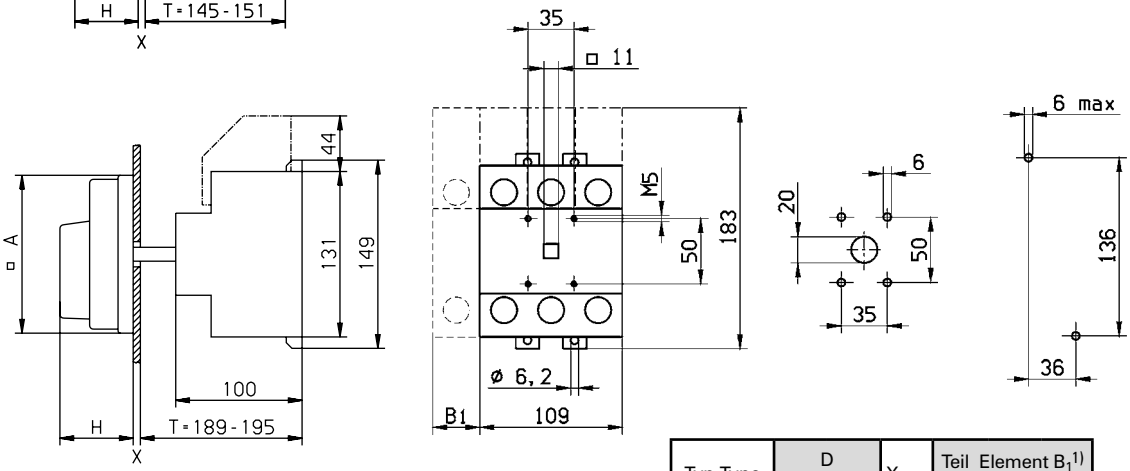
D2/D3



DK4/D4/D5



D6/D7



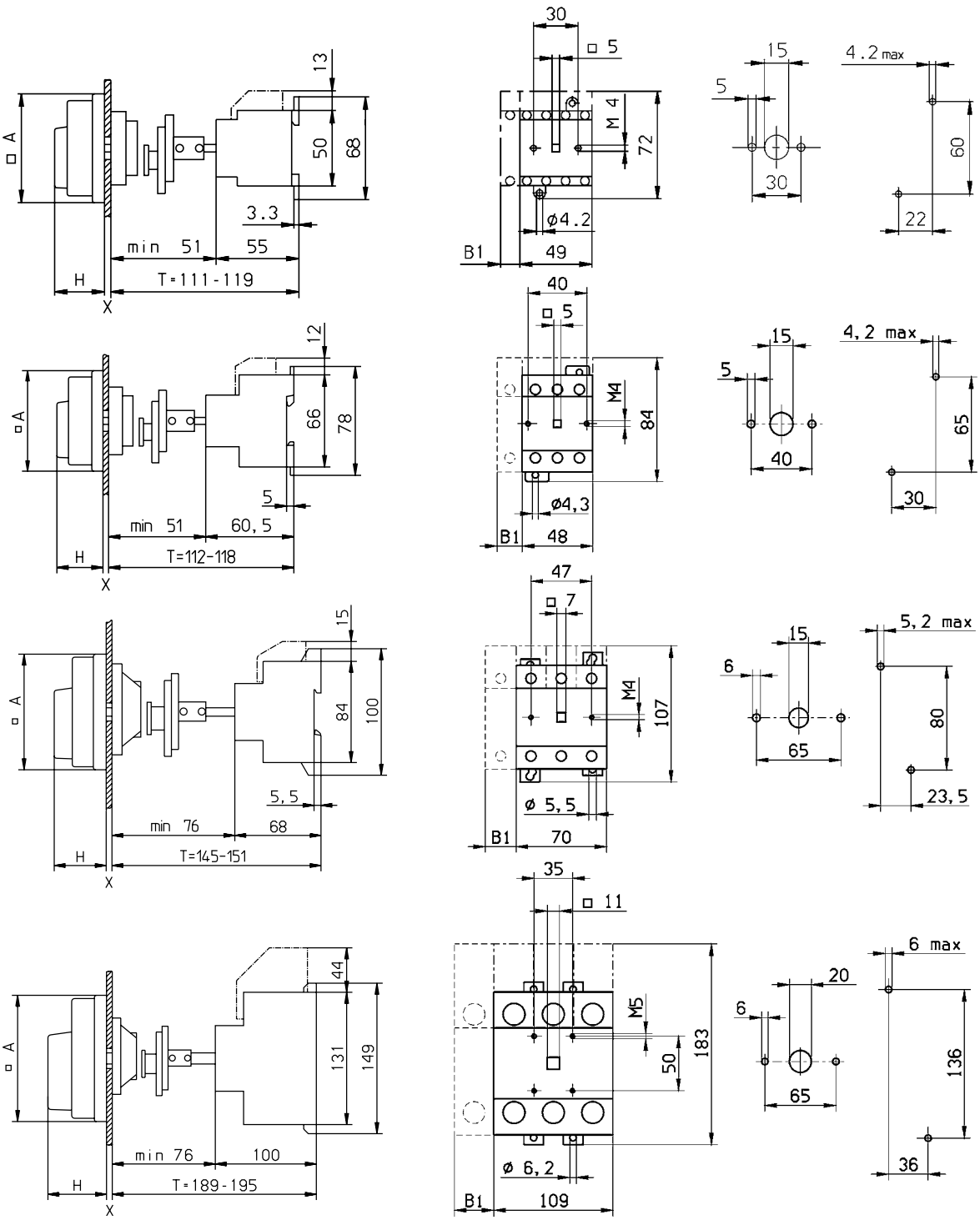
Typ Type	D		$X_{max.}$	Teil Element B_1 1)		
	A	H		1–3	4	5
DK1	72	34	4	13	–	11
D2/D3	72	34	4	17	11	19
DK4/D4/D5	96	44	4	24	11	19
D6/D7	125	60	4	36	11	19

Dimensions

Rear fixing with door coupling and door interlock NOF/EOF

Insert | Front view | Drillings | Dimensions in mm

Door | Rear



Typ Type	D		$X_{max.}$	Teil Element B_1 1)		
	A	H		1–3	4	5
DK1	72	34	4	13	–	11
D2/D3	72	34	4	17	11	19
DK4/D4/D5	96	44	4	24	11	19
D6/D7	125	60	4	36	11	19

1) see page

2) When using metric screws and lock nuts

Coupling disc displaceable from the middle of the shaft

Dimensions

Single hole mounting KZF

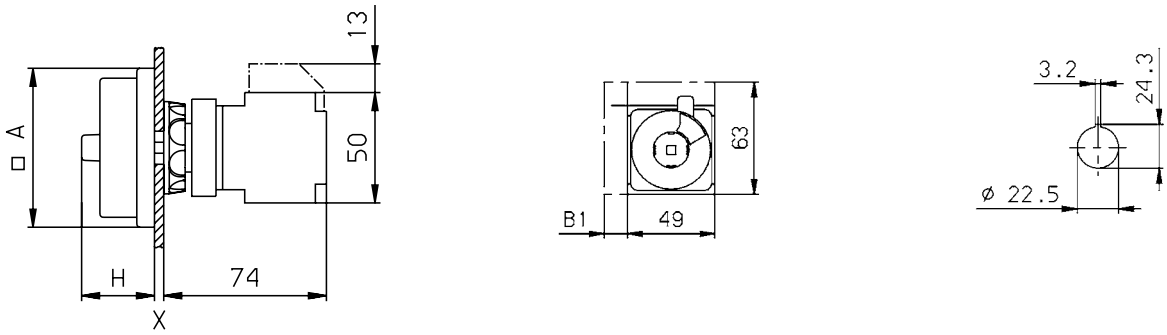
Dimensions in mm

Insert

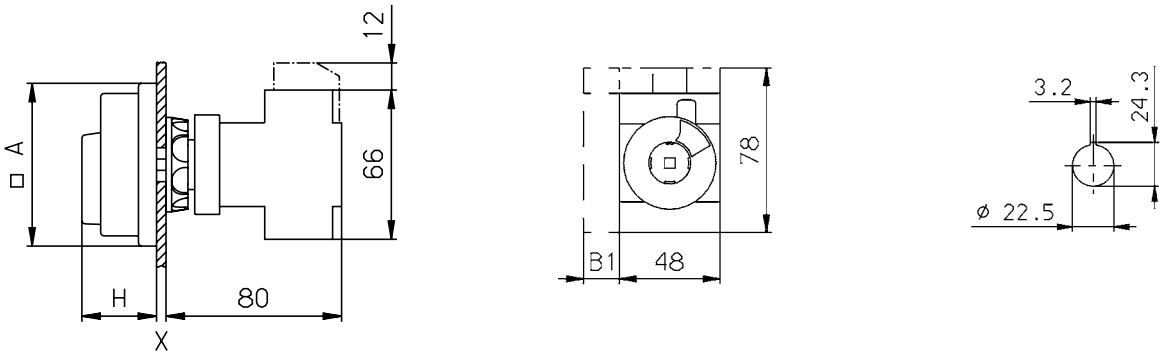
Front view

Panel drilling

DK1



D2/D3

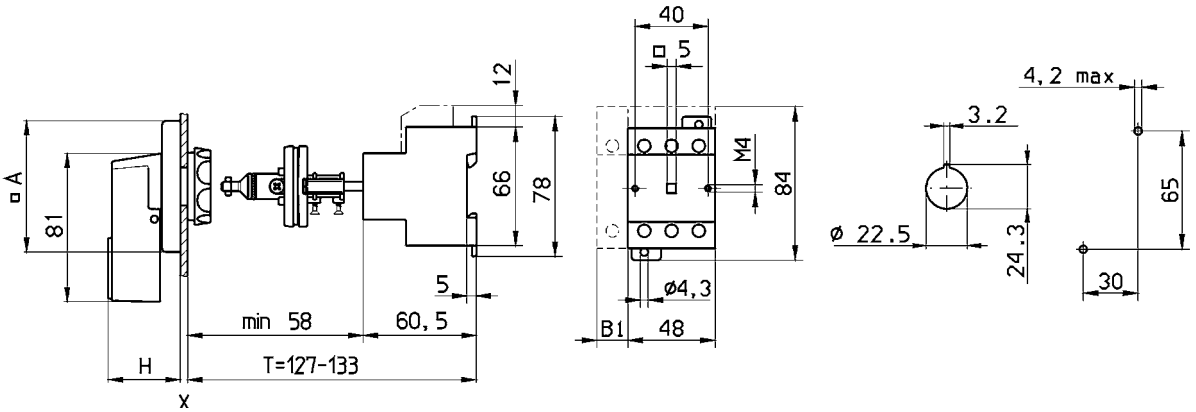


Typ Type	D		$X_{max.}$	Teil Element B_1 1)		
	A	H		1–3	4	5
DK1	65	34	4	13	–	11
D2/D3	65	34	4	17	11	19

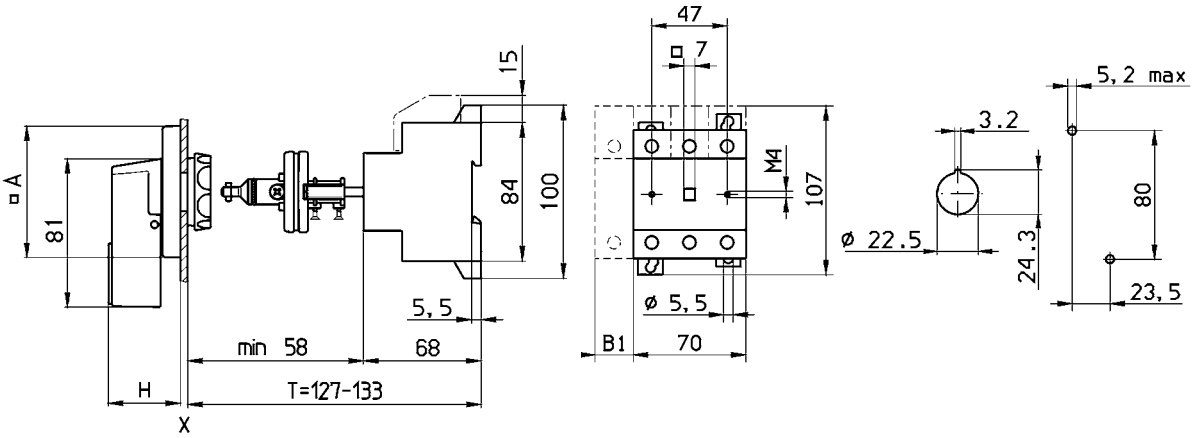
Dimensions

Single hole mounting with door coupling and door unlocking NOZ

Insert | Front view | Drillings: Door | Rear | Dimensions in mm



D2/D3



DK4/D4/D5

Type	BLS		$X_{max.}$	Element B_1 1)		
	A	H		1–3	4	5
D2/D3	72	39	4	17	11	19
DK4/D4/D5	72	39	4	24	11	19

1) see page 7

D2–D5 displacement ± 4 mm

Coupling disc displaceable from the middle of the shaft

Dimensions

Mounting into distributors V

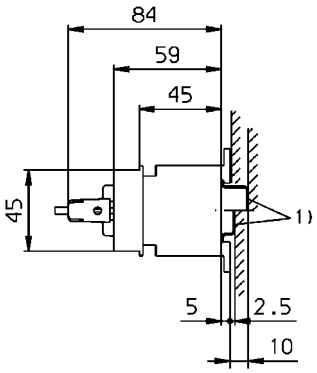
Dimensions in mm

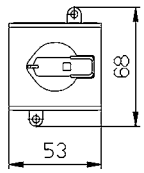
Interlocking by 1 padlock **BS**

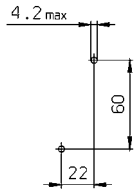
Front view

Drilling rear

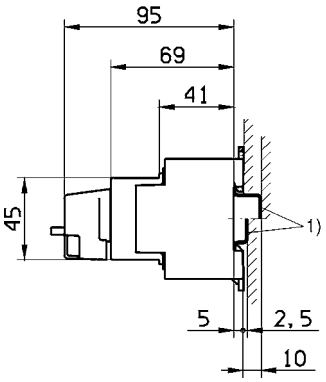
DK1

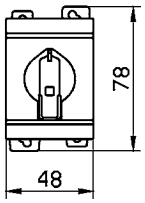


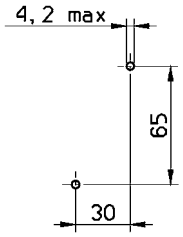




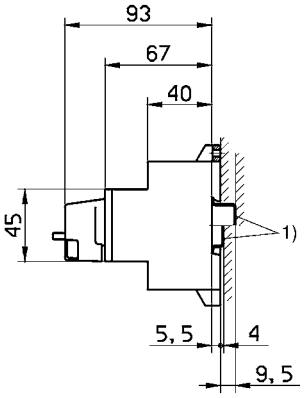
D2/D3

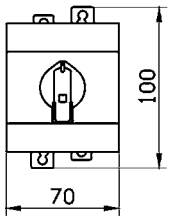


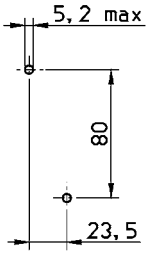




DK4/D4/D5



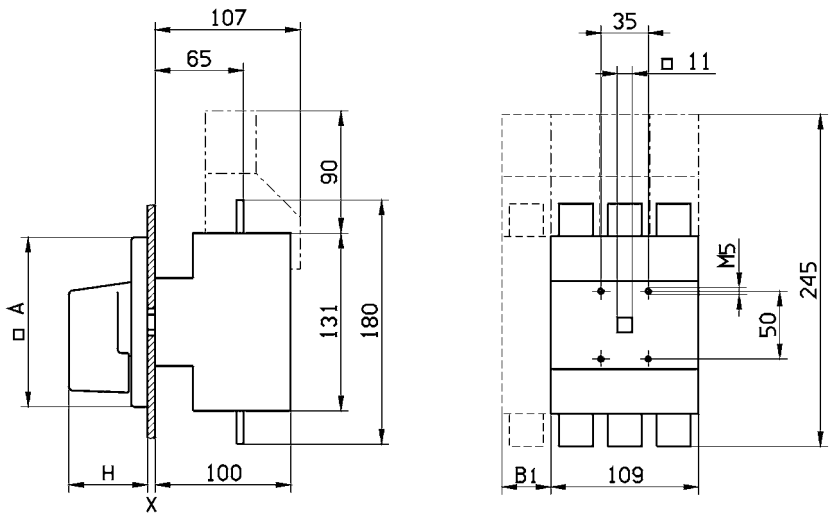


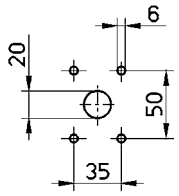


Supporting rail according to DIN EN 50022 35 mm
clearance 15 mm resp. 7,5 mm

Dimensions
Busbar connection for switch sizes D6/D7
Front fixing F

Insert | Front view | Panel drilling | Dimensions in mm





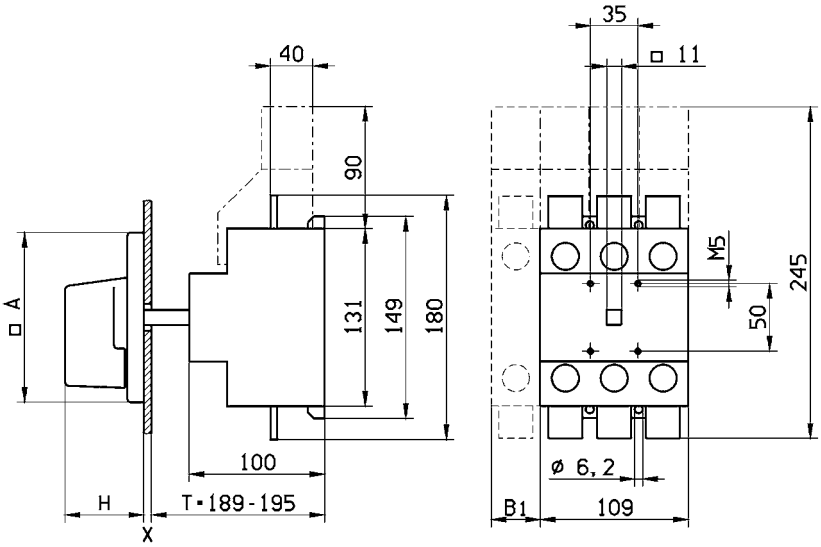
D6/D7

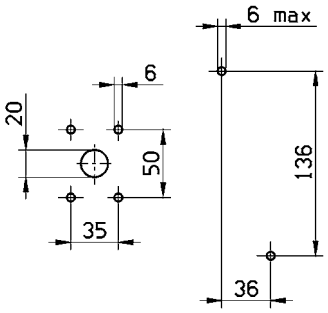
Type	D		$X_{max.}$	Element B_1 2)		
	A	H		1–3	4	5
D6/D7	125	60	4	36	11	19

Rear fixing EF

Insert | Front view | Drillings | Dimensions in mm

Door | Rear





D6/D7

2) see page 7

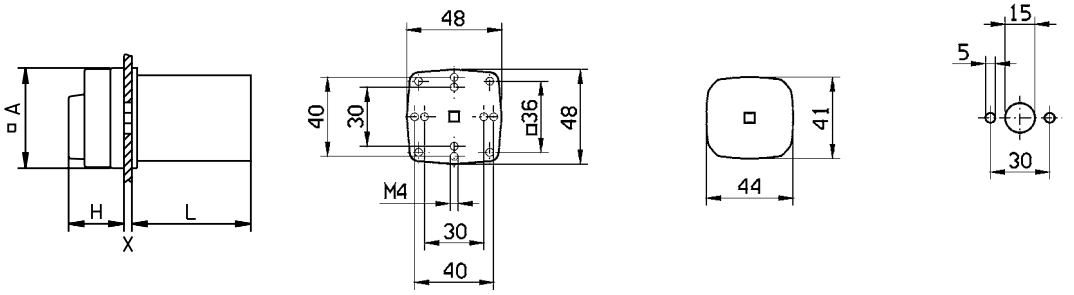
Type	D		$X_{max.}$	Element B_1 2)		
	A	H		1–3	4	5
D6/D7	125	60	4	36	11	19

Dimensions

Dimensions in mm

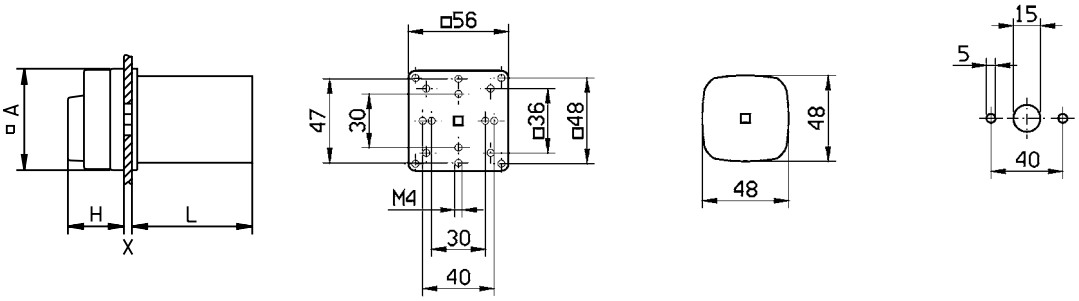
Insert | Front view | Switch body | Panel drilling

V2N



Front fixing F

V3N

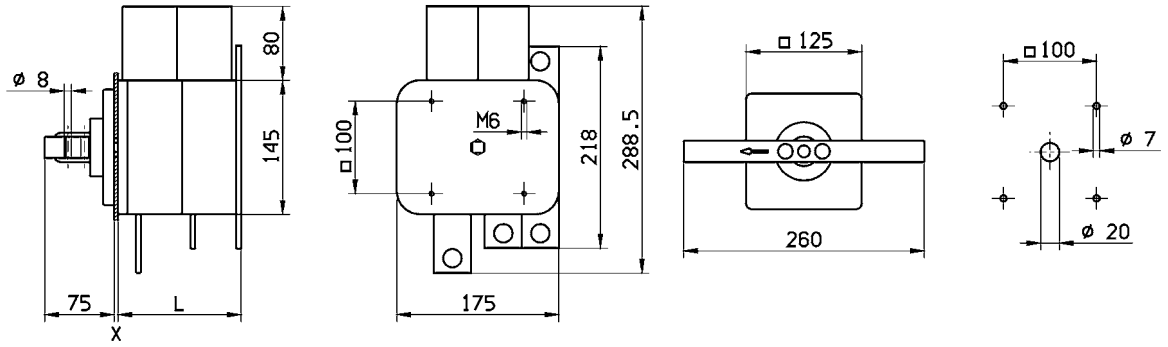


Type	D		$X_{max.}$	Dim.	3-poles	4-poles
	A	H				
V2N	72	34	4	L	57	57
V3N	72	34	4		60	60

Dimensions

Front fixing F

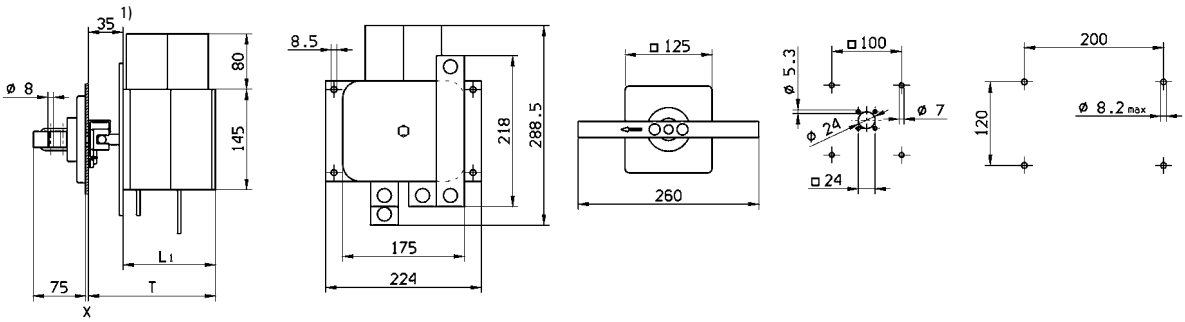
Insert | Front view | Handle **DHV** | Panel drilling | Dimensions in mm



DL8/DL9

Rear fixing with door coupling and door interlock PVF

Insert | Front view | Handle **DHV** | Drillings: Door, Rear | Dimensions in mm



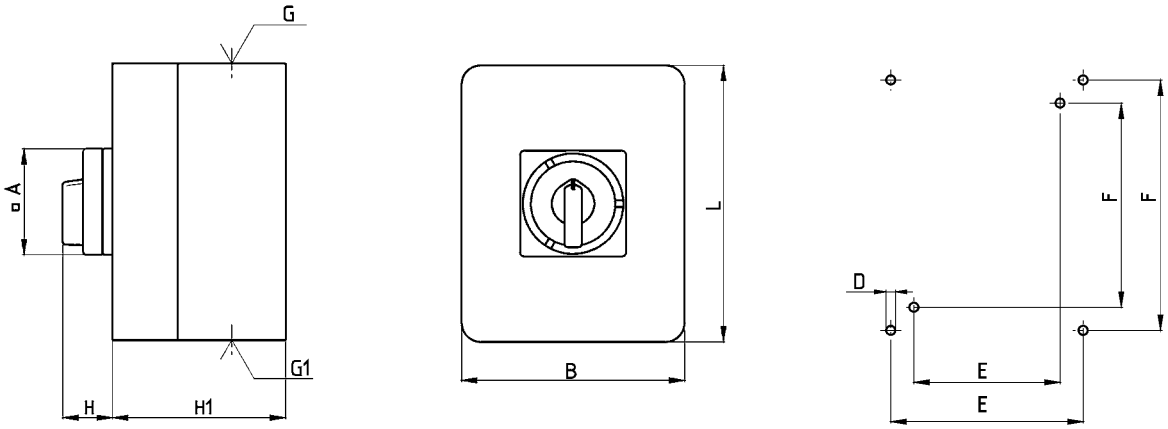
DL8/DL9

Type	L		L_1		T		X
	3- poles	4- poles	3-poles	4- poles	3-poles	4-poles	
DL8	160	219	133	192	182 – 185	242 – 245	1,5 – 4
DL9	160	219	133	192	182 – 185	242 – 245	1,5 – 4

1) Dimension min.

Dimensions

in plastic enclosure T

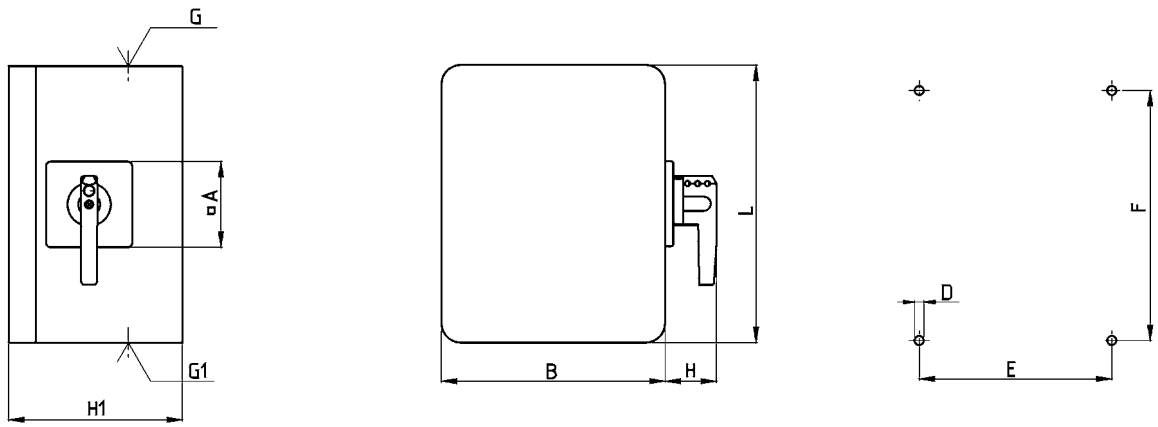


Dimensions in mm

Size of enclosure	B	L	H_1	A	H	E	F	D	G	G_1
T24/2	82	82	67	65	34	68 1)	68 1)	4,5	2 x M 20	2 x M 20
T25/2	82	82	93	65	34	68 1)	68 1)	4,5	2 x M 20	2 x M 20
T27/3	96	96	109	72	34	82 1)	82 1)	4,5	2 x M 25	2 x M 25
T8/2	91	121	75	72	34	76 1)	106 1)	4,5	1 x M 20, 1 x M 25	1 x M 20, 1 x M 25
T51/4	115	130	99	65	34	96	96	5,5	–	2 x Ø 25, 1 x Ø 16
T70/2	170	135	107	72	34	153	118	4,5	–	2 x Ø 25, 1 x Ø 16
T5/6	114	162	86	72	34	98	126	5,3	2 x M 32	2 x M 32
T5/7	114	162	86	72	34	98	126	5,3	2 x M 32, 1 x M 16	2 x M 32, 1 x M16
T20/6	114	162	106	72	34	98	126	5,3	2 x M 32	2 x M 32
T20/7	114	162	106	72	34	98	126	5,3	2 x M 32, 1 x M 16	2 x M 32, 1 x M 16
T72/4	220	168	107	72	34	203	151	4,5	–	2 x Ø 32, 1 x M 16
T12/4	168	220	107	72	34	151	203	4,5	2 x Ø 32	2 x Ø 32
T12/5	168	220	107	72	34	151	203	4,5	2 x Ø 32, 1 x Ø 16	2 x Ø 32, 1 x Ø 16
T12/7	168	220	107	96	44	151	203	4,5	2 x Ø 40, 1 x Ø 16	2 x Ø 40, 1 x Ø 16
T74/5	270	220	126	96	44	240	190	6	–	2 x Ø 40, 1 x Ø 16
T14/6	220	270	126	96	44	190	240	6	2 x Ø 40, 1 x Ø 16	2 x Ø 40, 1 x Ø 16
T14/4	220	270	126	96	44	190	240	6	2 x Ø 50, 1 x Ø 16	2 x Ø 50, 1 x Ø 16
T55/6 2)	270	540	180	125	60	249	520	7	2 x Ø 75, 1 x Ø 16	2 x Ø 75, 1 x Ø 16

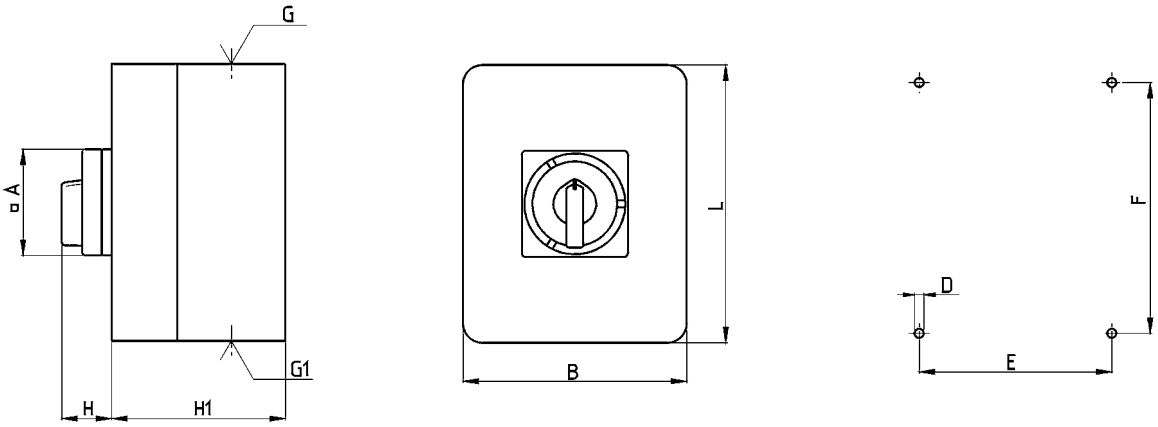
Dimensions

Metal enclosure LB/G/B



Size of enclosure	B	L	H_1	A	H	E	F	D	G	G_1
LB2/3 [2]	400	600	200	125	100	350	550	9	2 x Ø 75, 1 x Ø 16	2 x Ø 75, 1 x Ø 16

Dimensions in mm



Size of enclosure	B	L	H_1	A	H	E	F	D	G	G_1
G32/2	91	97	72	72	34	68	72	5,5	2 x Ø 20	2 x Ø 20
G44/2	112	132	90	72	34	58	92	5,5	2 x Ø 25	2 x Ø 25
G44/3	112	132	90	72	34	58	92	5,5	2 x Ø 25, 1 x Ø16	2 x Ø 25, 1 x Ø 16
G48/2	142	160	103	72	34	90	120	5,5	2 x Ø 32	2 x Ø 32
G48/4	142	160	103	72	34	90	120	5,5	2 x Ø 32, 1 x Ø 16	2 x Ø 32, 1 x Ø 16
G59/2	150	225	110	72	34	100	180	5,5	2 x Ø 32, 1 x Ø 16	2 x Ø 32, 1 x Ø 16
B15/6	200	300	150	96	44	155	255	10	2 x Ø 40, 1 x Ø 16	2 x Ø 40, 1 x Ø 16
B15/7	200	300	150	96	44	155	255	10	2 x Ø 50, 1 x Ø 16	2 x Ø 50, 1 x Ø 16
B16/6 [2]	300	500	200	125	60	255	455	10	2 x Ø 75, 1 x Ø 16	2 x Ø 75, 1 x Ø 16

Dimensions in mm

1) G = 2 x Cable socket Ø 14–68, 1 x Ø16
2) G1 = 2 x Cable socket Ø 14–68, 1 x Ø 16

Dimensions

Front fixing F

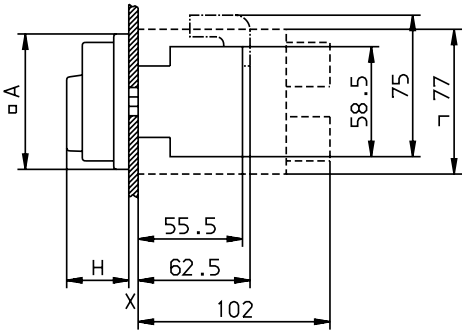
Dimensions in mm

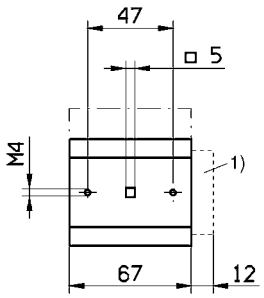
Insert

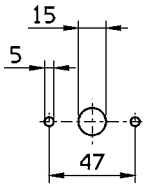
Front view

B Panel drilling

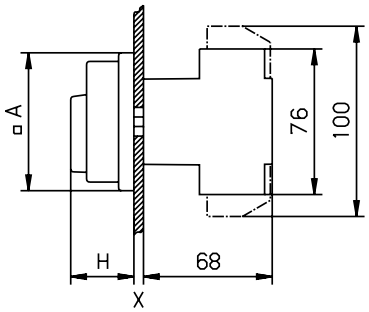
S1

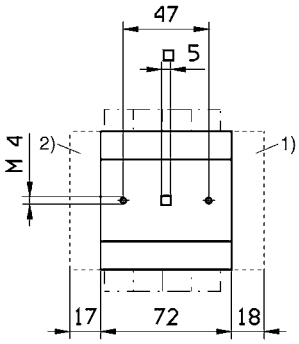


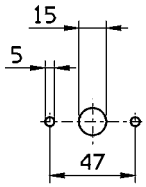




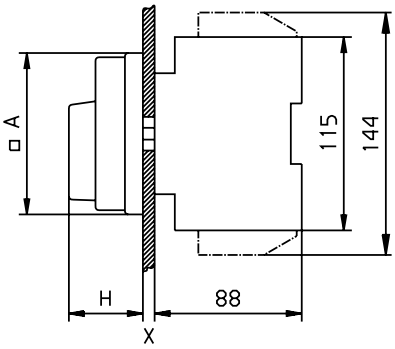
S3N/S4N

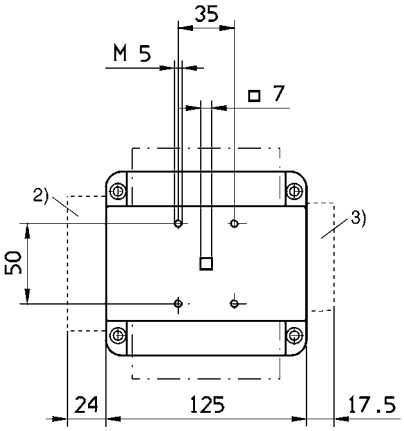


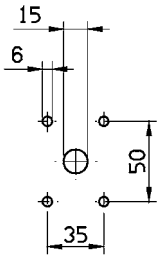




S5N/S6N/S7N





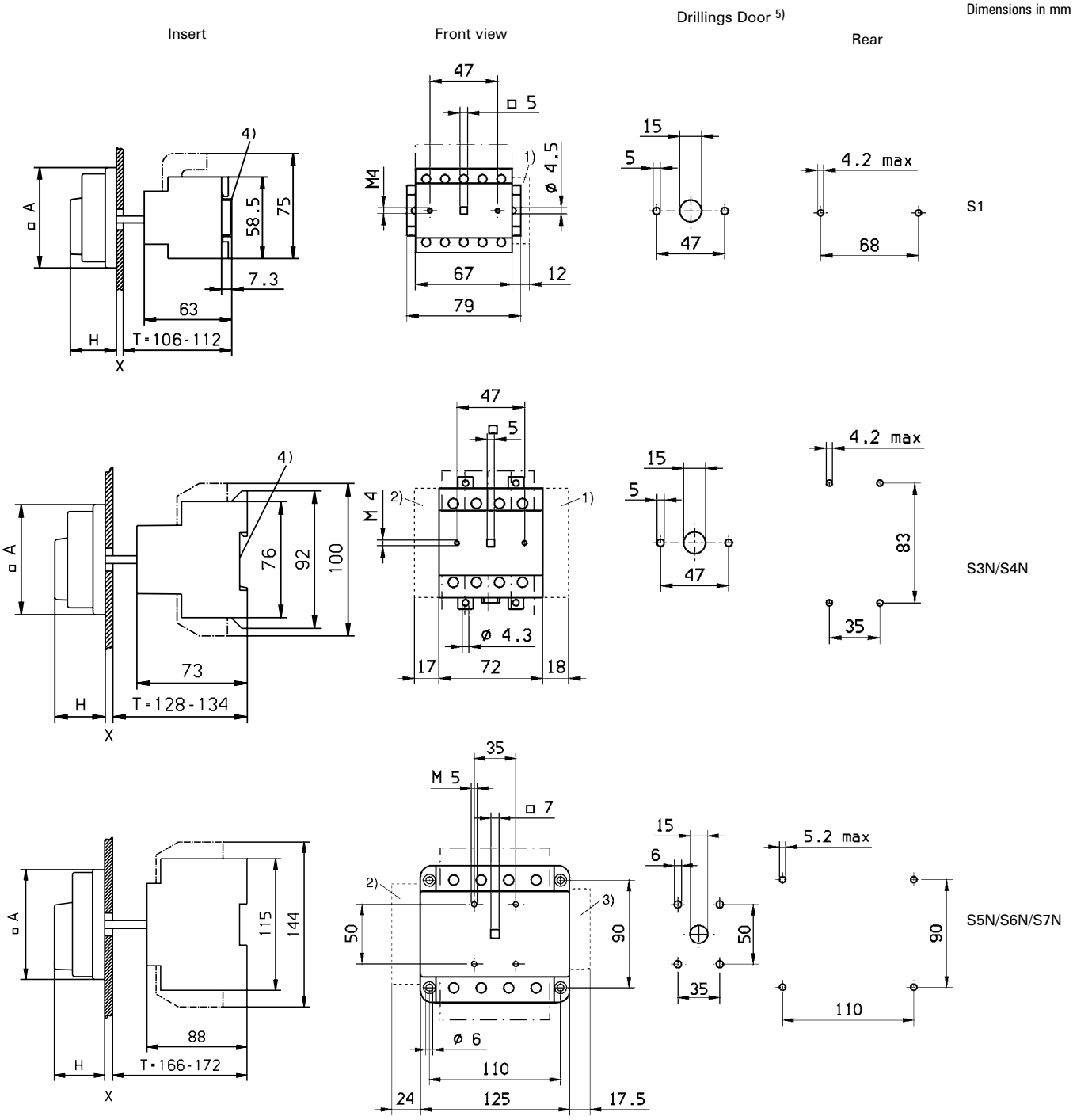


Type	D		$X_{max.}$
	A	H	
S1	72	34	4
S3N/S4N	72	34	4
S5N/S6N/S7N	96	44	4

Dimensions

Rear fixing NF/EF

Dimensions in mm



Type	D		$X_{max.}$
	A	H	
S1	72	34	4
S3N/S4N	72	34	4
S5N/S6N/S7N	–	–	4

1) Teil Element 4 oder or 5 – Siehe Seite 7 See page 7

2) Teil Element 1 – Siehe Seite 37 See page 7

3) Plug-in terminal for auxiliary contacts

4) Supporting rail according to DIN EN 50022 35 mm – clearance 15 mm resp. 7,5 mm

5) When using metric screws and lock nuts

TI

Technical tables

Load values

Adviced load values as per DIN VDE 0298-4 08/2003 – Setting type C, ambient temperatur 25 °C

Rated current I_n	18,5 A	25 A	34 A	43 A	63 A[1)]	81 A	102 A	126 A	153 A	195 A	236 A	275 A	317 A
Cross section mm²	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150
Cable threads	M 16 x 1,5	M 20 x 1,5	M 25 x 1,5	M 32 x 1,5	M 32 x 1,5	M 40 x 1,5	M 40 x 1,5	M 50 x 1,5	M 50 x 1,5	M 50 x 1,5	M 63 x 1,5	M 63 x 1,5	M 63 x 1,5

Cable diameter

Various cables									
PVC conductor **NYM**		mean PVC conductor **H05 VV**		heavy PVC conductor **NYY**		heavy rubber conductor **H07 RN**		light rubber conductor **H05 RR**	
Cross section	Ø	Cross section	Ø	Cross section	Ø	Cross section	Ø	Cross section	Ø
		3 x 0,75 mm² 3 x 1,0 mm²	6,8 7,2					3 x 0,75 mm²	7
3 x 1,5 mm² 5 x 1,5 mm²	9,2 10,5	3 x 1,5 mm² 5 x 1,5 mm²	8,5 10,3			3 x 1,0 mm² 3 x 1,5 mm²	9,3 10,3	3 x 1,5 mm²	9,1
5 x 2,5 mm²	12,1	5 x 2,5 mm²	12,4			5 x 1,5 mm²	12,5	5 x 1,5 mm² 5 x 2,5 mm²	11,1 13,4
5 x 4 mm² 5 x 6 mm²	14,7 16,1	5 x 4 mm²	13,7	5 x 1,5 mm² 5 x 2,5 mm²	15 15	5 x 2,5 mm² 5 x 4 mm²	14,8 17,4		
5 x 10 mm²	19,4			5 x 4 mm² 5 x 6 mm² 5 x 10 mm²	18 19 20	5 x 6 mm²	19,6		
4 x 16 mm² 5 x 16 mm² 4 x 25 mm²	22 24,4 26,9			4 x 16 mm² 5 x 16 mm² 4 x 25 mm² 4 x 35 mm²	21 22 24 26	5 x 10 mm² 4 x 16 mm² 5 x 16 mm²	25,8 25,8 28,6		
5 x 25 mm² 4 x 35 mm²	29,4 29,8			5 x 25 mm² 4 x 50 mm² 4 x 70 mm²	28 30 33	4 x 25 mm² 4 x 35 mm²	30,9 34,5		
				4 x 95 mm² 4 x 120 mm² 4 x 150 mm²	38 42 46	4 x 50 mm² 4 x 70 mm²	39,4 44,5		

Cable threads dimensions

Metric cable threads			
Size	Density for cable diameter		
	ET-Standard ET-standard Ø m	Manufacturer datas Ø mi	Ø max
M 12 x 1,5	3 – 6	2 – 5	3 – 6,5
M 16 x 1,5	5 – 10	3 – 7	5 – 10
M 20 x 1,5	8 – 13	5 – 9 6 – 12	10 – 14
M 25 x 1,5	11 – 17	9 – 14	13 – 18
M 32 x 1,5	15 – 21	12 – 20	18 – 25
M 40 x 1,5	19 – 28	20 – 26	22 – 32
M 50 x 1,5	26 – 35	25 – 31	30 – 38
M 63 x 1,5	32 – 42	29 – 35	34 – 44

1) Not valid for the transfer on a wood wall

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