

Switch Disconnectors

3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Introduction

Technical specifications

Standards		DIN VDE 0660, IEC 60947								
Switches		Type	3LD2 0	3LD2 1	3LD2 2	3LD2 5	3LD2 7	3LD2 8	3LD2 3	3LD2 4
Rated insulation voltage U_i		V	690							
Rated operational voltage U_e		V AC	690							
Rated frequency		Hz	50 ... 60							
Rated impulse withstand voltage U_{imp}		kV	6	6	6	6	6	6	6	6
Rated short-time withstand current (1 s current, rms value)		A	340	640	640	1260	2000	2000	4000	4000
Short-circuit protection, max. back-up fuse (gL)		A	20	25	40	63	100	125	160	250
Rated conditional short-circuit current with upstream fuses at AC 50/60 Hz, 690 V		kArm s	50	50	50	50	50	20	50	50
Maximum permissible let-through I^2t value		kA ² s	2.5	4	9	21	64	104	185	557
Permissible let-through current of the fuse		kA	3	3.5	4.5	6	10	10	15	15
Rated uninterrupted current I_U		A	16	25	32	63	100	125	160	250
AC-21A load-break switch	Rated operational current I_e	A	16	25	32	63	100	125	160	250
AC-3 motor load switches	Rating									
In-service switching	At 220 ... 240 V	kW	3.0	4.0	5.5	11.0	18.5	22.0	35.0	55.0
of individual motors	At 380 ... 440 V	kW	5.5	7.5	9.5	18.5	30.0	37.0	50.0	110.0
	At 660/690 V	kW	5.5	7.5	9.5	15.0	22.0	30.0	37.0	45.0
AC-23A main control switch	Rating									
Repair switch	At 220 ... 240 V	kW	4.0	5.0	6.0	11.0	18.5	22.0	45.0	75.0
frequent, but not in-service switching	At 380 ... 440 V	kW	7.5	9.5	11.5	22.0	37.0	45.0	75.0	132.0
of individual motors	At 660/690 V	kW	7.5	9.5	11.5	18.5	30.0	37.0	45.0	55.0
Power loss per conducting path at I_e		W	0.5	1.1	1.8	4.5	7.5	12.0	36.0	36.0
Endurance mechanical		Operating cycles	100 000							
Switching frequency		1/h	50							
Permissible ambient temperature		°C	-25 ... +55							
Isolating features		Up to max.	V 690							
Conductor cross-sections for main conductors ¹⁾										
Solid or stranded		mm ²	1 ... 6	1.5 ... 16	1.5 ... 16	2.5 ... 35	4 ... 50	4 ... 50	16 ... 185	16 ... 185
Finely stranded with end sleeve (max.)		mm ²	4	10	10	16	35	35	150	150
Conductor cross-sections	Copper cable	AWG	18 ... 10	14 ... 8	14 ... 8	14 ... 6	12 ... 1	12 ... 1		
Torque for terminal		Nm	1.5 ... 2	2 ... 2.5	2 ... 2.5	2.5 ... 3	2.5 ... 3	2.5 ... 3	9.5 ... 10	9.5 ... 10
Touch protection according to EN 50274			Yes							
Auxiliary switches										
Rated insulation voltage U_i		V	500							
Rated operational voltage U_e		V AC	500							
Rated uninterrupted current I_U		A	10							
Rated operational current I_e , AC-15										
	At 120 V	A	6							
	At 220 ... 240 V	A	3							
	At 380 ... 415 V	A	1.8							
	At 500 V	A	1.4							
Short-circuit protection, auxiliary switch, max. back-up fuse (gL/gG) A			10							
Conductor cross-sections for auxiliary conductors										
Connection type		Terminals								
Solid or stranded		mm ²	2 × (0.75 ... 2.5), 1 × 4							
Finely stranded with end sleeve		mm ²	2 × (0.75 ... 1.5) 1 × 2.5							
Torque for terminal		Nm	0.8							

3LD main and EMERGENCY-STOP switches for UL/CSA


Standards		UL/CSA								
Switches		Type	3LD2 0	3LD2 1	3LD2 2	3LD2 5	3LD2 7	3LD2 8	3LD2 3	3LD2 4
Rated operational voltage U_e		V AC	600							
Rated uninterrupted current I_U		A	10							
	Current rating	A	10	20	30	60	100	125	160	250
	Pilot duty									
	A 600	A	600							
	P 600	P	600							
Conventional thermal current I_{th}		A	16	25	32	63	100	125	160	250
Maximum rated power (AC-3)										
Alternating current motors 40 ... 60 Hz	3 ~ 120 V	HP	1	3	3	5	10	15	--	--
	240 V	HP	3	7.5	10 (7.5) ²⁾	15	30	40	40	50
	480 V	HP	7.5	10	20 (15) ²⁾	40	60	75	75	100
	600 V	HP	10	15	30 (20) ²⁾	50	75	100	75	75
1 ~ 120 V		HP	0.5	2	2	3	--	--	--	--
	240 V	HP	1.5	3	3	10	--	--	--	--
Conductor cross-sections		Cu cable								
Torque		AWG	18 ... 10	14 ... 8	14 ... 8	14 ... 6	12 ... 1	12 ... 1	1 ... MCM400	
		Nm	1.5 ... 2	2 ... 2.5	2 ... 2.5	2.5 ... 3	2.5 ... 3	2.5 ... 3	10	10

¹⁾ Depending on the cable infeed, only small cross-sections are possible with devices in molded-plastic enclosures

²⁾ Values in brackets apply to devices in molded-plastic enclosure

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Floor mounting

Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-23A	I_u							kg
		kW	A							
<p>Main and EMERGENCY-STOP switches with defeatable door-coupling rotary operating mechanism</p> <p>The 3LD main and EMERGENCY-STOP switch with defeatable door-coupling rotary operating mechanism enables you to conduct repairs, maintenance work or tests on electrical plants and machines without having to interrupt their operation. With the help of the defeatable door-coupling rotary operating mechanism, an electrician can bypass the interlock in ON position and open the control cabinet door with the plant activated.</p> <p>3LD main and EMERGENCY-STOP switches with defeatable door-coupling rotary operating mechanism are approved according to UL508.</p> <ul style="list-style-type: none"> • With 300 mm switch shaft • Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • Door-coupling rotary operating mechanism with integrated tolerance compensation • Mounting using screws or snap-on mounting on 35 mm standard mounting rails • Including terminal cover for the infeed side • Front plate 65 mm × 65 mm 										
Four-hole mounting										
 <p>3LD2 017-0TK..</p>	3	--	7.5	16	3LD2 017-0TK1□		1	1 unit	103	0.426
			11.5	32	3LD2 217-0TK1□		1	1 unit	103	0.420
			22	63	3LD2 517-0TK1□		1	1 unit	103	0.576
	3 + N	--	7.5	16	3LD2 017-1TL1□		1	1 unit	103	0.426
			11.5	32	3LD2 217-1TL1□		1	1 unit	103	0.445
			22	63	3LD2 517-1TL1□		1	1 unit	103	0.397

Actuator color

Black
Red/yellow (EMERGENCY-STOP)

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