

Modular switches ModLBS

Data according to IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1				
Type	ModLBS 16 1p / ModLBS 16 3p			
Rated thermal current $I_{th, open}$	A		20	
Rated thermal current $I_{th, enclosed}$	A		20	
Rated operational voltage U_e	V		690*	
Disconnection property** acc. to VDE, IEC up to	V		440	
Breaking capacity	3x220-240V	A	160	
	3x500V	A	100	
	3x660-690V	A	120	
Utilization categ. AC21A, AC21B	Switching of resistive loads including moderate overloads			
	Rated operational current I_e	A	20	
Utilization categ. AC23A, AC23B	Switching of motor loads or other highly inductive loads			
	Rated current I_e	400V A	16	
	Power rating 3-phase 3-pole	220-240V	kW	4
		380-440V	kW	7,5
		500V	kW	7,5
660-690V		kW	7,5	
Star-Delta-Switches	for squirrel cage motors			
	Power rating	220-240V kW	3,7	
	3-phase 3-pole	380-415V kW	7,5	
Utilization category AC3	Switching of three-phase motors			
	Rated current I_e	400V A	12	
	Power rating 3-phase 3-pole	220-240V	kW	3
		380-440V	kW	5,5
		500V	kW	5,5
660-690V		kW	5,5	
Utilization category AC4	squirrel cage motors, inching			
	Power rating 3-phase 3-pole	220-240V	kW	0,55
		380-440V	kW	1,5
		500V	kW	1,5
660-690V		kW	1,5	
Utilization category AC15	Control of electromagnetic loads, contactors			
	Rated current I_e	up to 240V	A	6
		380-440V	A	4
2-pole in series	500V	A	5	
Utilization categ. DC21A, DC21B	Switching of resistive loads Time constant $L/R \leq 1ms$			
	Rated current I_e 1-pole	30V	A	20
		60V	A	4
		110V	A	0,6
		220V	A	0,3
		440V	A	-
Utilization category DC3 - DC5	Switching of shunt motors and series motors Time constant $L/R \leq 15ms$			
	Rated current I_e 1-pole	30V	A	8
		60V	A	1
110V		A	0,3	
Protection class of terminals			IP20	

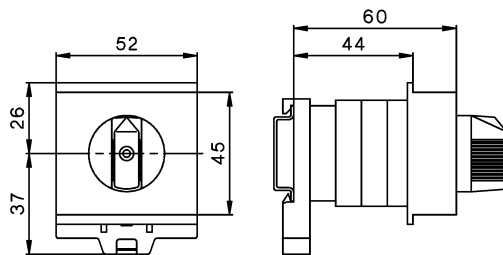
* suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): $U_{imp} = 6kV$. Data for other conditions on request

** valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3.

Data according to IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1			
Type	ModLBS 16 1p / ModLBS 16 3p		
Cable cross sections	solid or stranded	mm ²	1-2,5*
	flexible	mm ²	0,75-2,5*
	flexible (+ multicore cable end)	mm ²	0,75-1,5
	Conductors to clamp per pole		2
	Size of terminal screw		M3,5
	Tightening torque	Nm	
lb.inch			7-12
Short circuit protection	Max. fuse size	gL (gG) A	20
	Rated short-time withstand current (1sec. current)	A	250
	Rated conditional short-circuit current	kA _{eff}	10
Short-time capacity	Load duration	3s A	100
	Note: Ratings applies to contacts already closed	10s A	60
		30s A	35
		60s A	25
Power loss at AC21A per pole		A	20
		W	0,5
Switching of capacitive loads	maximum making capacity up to 500V	A	140

* Maximum cable cross-section with prepared conductor

Dimensions



Data according to IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1				
Type			ModLBS 40 3p ES	
Main contacts	Rated thermal current I_{th} open		A 40	
	Rated thermal current I_{th} enclosed		A 40	
Rated insulation voltage U_i^*			V 690	
Rated operational current I_e AC21A			A 40	
Rated operational voltage U_e max. AC21A			V 690	
Making capacity I_{eff} 3x380-440V			A 300	
Breaking capacity	3x220-240V		A 250	
	3x380-440V		A 250	
	3x660-690V		A 170	
Disconnection property performed up to			V 690	
Motor Switch	AC3	3x400V	A 30	
Motor Switch	AC3	3x220-240V	kW 7,5	
Direct switching of single motors		3x380-440V	kW 15	
		3x660-690V	kW 15	
Main Switch	AC23	3x400V	A 32	
Motor Switch	AC23A	3x220-240V	kW 9	
Main Switch	AC23B	3x380-440V	kW 16	
Safety Switch		3x660-690V	kW 15	
Rated conditional short-circuit current			400V kAeff 10	
Max. fuse size gL (gG)			400V A 40	
Rated conditional short-circuit current			690V kAeff 1	
Max. fuse size gL (gG)			690V A 40	
A Mechanical life			$\times 10^3$ 200	
Rated short-time withstand current (1sec. current)			A 500	
Power loss per pole $AC21 = I_{th}$	P/pole	E, Z	W 1,288	
		V, SMA, PF	W 1,458	
	R/pole	E, Z	mOhm 0,805	
		V, SMA, PF	mOhm 0,911	
Maximum ambient temperature	Operation	open	-40°C ... +60°C (90°C)**	
		enclosed	-40°C ... +40°C	
	Storage		-50°C ... +90°C	
Cable cross sections	solid or stranded	mm ²	0,5 - 10	
		AWG	20 - 8 (10)	
	flexible	mm ²	0,5 - 6	
		AWG	20 - 10	
	flexible (+ multicore cable end)	mm ²	0,5 - 6	
		AWG	20 - 10	
Size of terminal screw			M3,5	
Tightening torque		Nm	1,7 - 2,3	
Auxiliary contacts	Rated insulation voltage U_i^*		V 690	
	Rated thermal current I_{th}, I_{the}		A 10	
	Switching capacity	AC15 380-450V	A	2,5/1,5
		DC13 60-110V	A	2/0,4
	Rated conditional short-circuit current		kA _{eff} 3	
Max. short circuit protection gL (gG)		A 10		
Cable cross sections	solid or stranded	mm ²	0,75 - 2,5	
		AWG	14 - 12	
	flexible (+ multicore cable end)	mm ²	0,75 - 2,5 (1,5)	
		AWG	18 - 14	

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** Derating acc. to cable cross sections

Data according to UL and cUL

Type		ModLBS 40 3p ES	
Rated voltage	V		600
Ampere-Rating "General use"	A		40
DOL-Rating 3-phase	110-120V	HP	2
	220-240V	HP	5
	440-480V	HP	10
	550-600V	HP	15
DOL-Rating 1-phase	110-120V	HP	1
	200-208V	HP	2
	220-240V	HP	3
Fuse size (RK5)	Manual Motor Controller	A	70
5kA / 600V	Motor Disconnect	A	50
Tightening torque		Nm	1,7-2,3
		lb.inch	15-20

Dimensions

