

Load and motor switches, load-break switches series 8544

- Explosion protection according to
 - CENELEC
 - IEC
 - NEC
- Innovative switch concept
- Modular system
- State-of-the-art contact arrangement
- Easy and clear connection technology
- Wiring channel for auxiliary contacts
- Retrofittable:
 - Alligator clip
 - Auxiliary contacts
 - Ex i separation body
 - N terminal
 - PE terminal
 - Adapter plate for cable connection
- Motor switching capacity AC 3, DC 1 and DC 23 acc. to IEC/EN 60 947-3, IEC/EN 60 947-4
- Isolating characteristics according to IEC/EN 60 947-4
- Type of protection IP2x
- Any installation position



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STAHL

The load and motor switch 8544/1 is an explosion-protected electrical device in a flameproof enclosure. It is used for the separation or activation of electrical circuits in hazardous areas of zone 1, zone 2 or in the safe area.

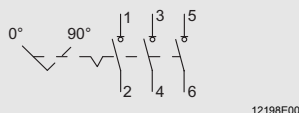
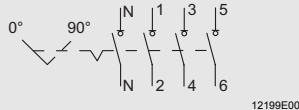
The load and motor switch 8544/1 is available in the versions 8544/1-3. (3 poles) and 8544/1-4. (3 poles + N).



The switches are actuated by means of an actuator insert which is connected to the switch by means of a selector shaft.

Up to two certified contact elements of the type 8080/1 can be mounted to the load and motor switch 8544/1

The switching function of the contact elements is defined by the contact version and their position in the load and motor switch (left-hand: delayed (ON), advanced (OFF); right-hand: synchronising).

Zones 1 & 2

Selection Table				
Version	Circuit diagram	Ambient temperature	Order number	Weight kg
8544/1-3., 3 pole		-30 °C ... +80 °C	165675	2.200
		-50 °C ... +80 °C	171154	2.200
8544/1-4., 3 pole + N		-30 °C ... +80 °C	167240	2.800
		-50 °C ... +80 °C	171156	2.800

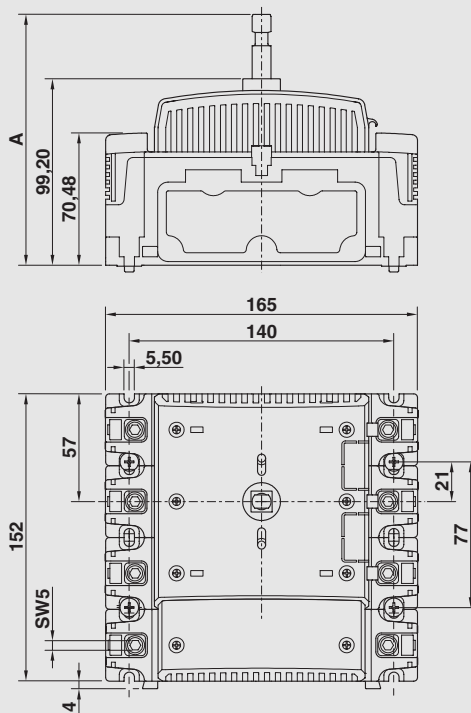
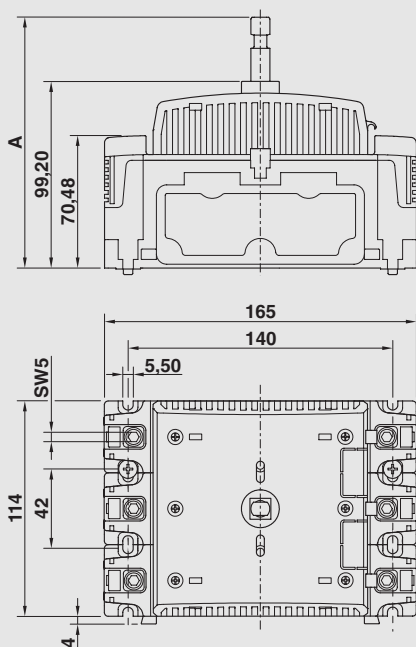
Technical Data				
Explosion protection				
Gas explosion protection	 II 2 G Ex de IIC  I M 2 Ex de I			
Certificates	PTB 08 ATEX 1060 U			
Other certificates	IECEx PTB 09.0011 U			
Main contacts				
Rated operational voltage	690 V AC; 50/60 Hz			
Rated operational current	max. 80 A			
Switching capacity	acc. to IEC/EN 60 947-3; IEC/EN 60 947-4:			
	AC 3	DC 23	DC 1	
	690 V, 63 A	220 V, 80 A ³⁾	220 V, 80 A ³⁾	
	500 V, 80 A	120 V, 80 A ²⁾	120 V, 80 A ²⁾	
		60 V, 80 A ¹⁾	60 V, 80 A ¹⁾	
	¹⁾ 1 flow path of current connected in series ²⁾ 2 flow paths of current connected in series ³⁾ 3 flow paths of current connected in series			
Motor switching capacity	690 V	500 V	400 V	240 V
	55 kW	55 kW	37 kW	22 kW
Max. short circuit protection	160 A, tripping characteristics: gL / gG acc. to DIN VDE 0636, part 10			
Short circuit protection I _{CC}	20 kA (IEC/EN 60947-3)			
Type of assignment	2 (according to IEC/EN 60 947-4-1)			
Rated short-time withstand current I _{cw}	2.2 kA (IEC/EN 60947-3)			
Max. power dissipation	3.8 W per path			
Service life				
mechanical	10 ⁵ switching cycles			
electrical	20,000 switching cycles			



Technical Data

Connection cross-section			
Main terminals	Conductor connection:		
	one conductor, finely stranded	6 mm ² ...10 mm ² (AWG 10...AWG 8)	only with insertion prism
	stranded:	16 mm ² ...50 mm ² (AWG 6...AWG 1/0)	
	finely stranded:	16 mm ² ...50 mm ² (AWG 6...AWG 1/0)	
	with cable lug:	max. 50 mm ² (max. AWG 1/0) The type of protection IP2X exists no longer!	with clamping plate and insertion prism
	Connection using several conductors:		
	one conductor, finely stranded	2 x 6 mm ² (AWG 10) ^{*)}	only with insertion prism
	one or more conductors, finely stranded	2 x 10 mm ² ...2 x 16 mm ² (2 x AWG 8...2 x AWG 6) ^{*)}	
	with cable lug:	max. 2 x 50 mm ² (max. 2 x AWG 1/0) ^{**)}	with clamping plate and insertion prism
	^{*)} Only conductors with the same cross-section are allowed! ^{**)} Conductors with different cross-sections are allowed! For cross-sections < 25 mm ² , the type of protection IP2X exists no longer!!		
Alligator clips	Conductor connection:		
	one conductor, finely stranded:	0.5 mm ² ...10 mm ² (AWG 20 ... AWG 8)	
	When several conductors are to be connected (only conductor with the same cross-section):		
	one conductor, finely stranded:	max. 2 x 6 mm ² (max. 2 x AWG 10)	
Auxiliary contacts			
Possible auxiliary contacts	max. 2 auxiliary contact blocs type 8080/1 8080/1-1: slow-action contacts, 1 NC + 1 NO, (normally open contact opens > 20 ms before opening of the main contact) 8080/1-3: slow-action contacts, 2 NC 8080/1-4: slow-action contacts, 2 NO		
Rated operational voltage	250 V AC/DC 400 V AC, for equal potential of both contacts 500 V AC, when 1 NC + 1 NO and the same potential of both contact is used		
Rated operational current	6 A		
Short circuit protection	10 A, tripping characteristics: gL / gG acc. to DIN VDE 0636, part 10		
Connection cross-section	1.5 mm ² ... 2.5 mm ² (AWG 16 ... AWG 14), one conductor, finely stranded		
Material			
Switching chamber	Epoxy resin		
Upper enclosure parts	PA		
Contacts	Silver zinc oxide		
Weight	3 poles: 2.2 kg 3 poles + N: 2.8 kg		
Type of protection	IP20 (finger touch-safe from the top)		
Switching torque	approx. 3.5 Nm		
Ambient temperature	8544/1-.1: -30°C ... + 80 °C 8544/1-.2: -50°C ... + 80 °C		
	depending on the rated operational current and the temperature class:		
	80 A	63 A	
	T6	T6	T _a ≤ 60°C
	T5	T5	T _a ≤ 75 °C
	T4	T4	T _a ≤ 80 °C
Mounting position	any		

Dimensional drawings (all dimensions in mm) - subject to alterations

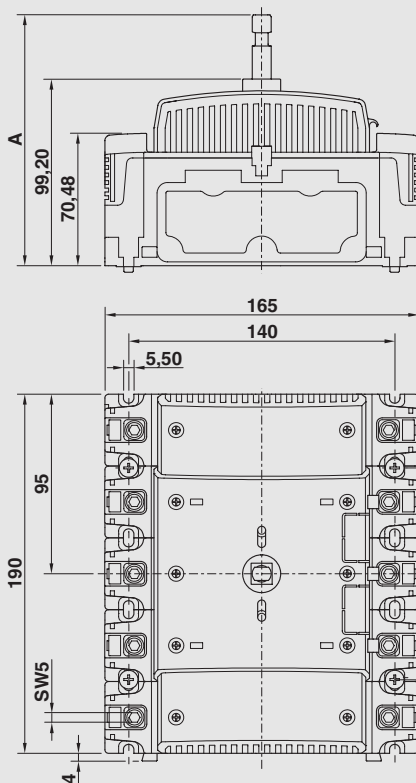


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8544/1, 3 pole

8544/1, 3 pole + N




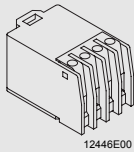
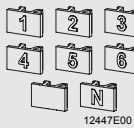
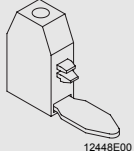
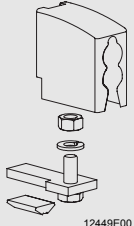

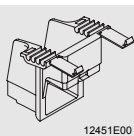
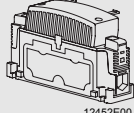
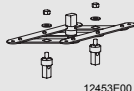
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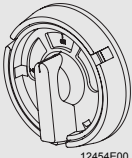

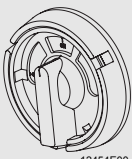
8544/1, 3 pole + N + PE

Dimension "A"	Mounting kit	Selector shaft	Installation in enclosure
191.7 mm	8544A0303-3	111 mm	8146/...5 und 8125/...5
151.7 mm	8544A0303-2	71 mm	8146/...3 und 8125/...3
132.7 mm	8544A0303-1	52 mm	8146/...2



We reserve the right to make alterations to the technical data, weights, dimensions, designs and products available without notice. The illustrations cannot be considered binding.

Accessories and spare parts				
Designation	Illustration	Description	Order number	Weight kg
Selector shaft		52 mm for 8146/...2	168354	0.031
		71 mm for 8146/...3 or 8125/...3	168355	0.046
		111 mm for 8146/...5 or 8125/...5	168357	0.077
Auxiliary contacts		2 NC contacts *)	168356	0.026
		1 NC contact + 1 NO contact *)	168351	0.026
		2 NO contact *)	168353	0.026
		The switching function of the auxiliary contact depends on the mounting slot used (left-hand: delayed (ON), advanced (OFF); right: synchronising).		
Designation labels		qr: 1 10 pieces	168286	0.010
		qr: 2 10 pieces	168287	0.010
		qr: 3 10 pieces	168288	0.010
		qr: 4 10 pieces	168289	0.010
		qr: 5 10 pieces	168290	0.010
		qr: 6 10 pieces	168291	0.010
		qr: N 10 pieces	168285	0.010
		qr: PE 10 pieces	168292	0.010
Alligator clip		AGK 10-UHK 50	168543	0.014
Connection for cable lug		Mounting kit for the connection of conductors with cable lug	171292	0.032
Insertion prism		for the connection of conductors with cross-sections $\leq 10\text{mm}^2$ (conductor connection) or $\leq 6\text{mm}^2$ (connection of several conductors) to the main terminals	171331	0.200
Ex i separation body		to ensure the required distance of 50 mm between the connection points of intrinsically safe and non-intrinsically safe circuits	169683	0.008
PE/N terminal		for subsequent assembly	169347	0.600
Parallel drive		to actuate simultaneously 2 combined load and motor switches	171329	0.327

Accessories and spare parts						
Designation	Illustration	Description	Order number	Weight kg		
Knob lever		Ø 122.5 mm; can be padlocked in 0 position using max. 3 padlocks				
		Handle: black Protective collar: black Designation label: 0/OFF - I/ON	8604A1-21-1-01-1-2	201436	0.325	
		Handle: red Protective collar: yellow Designation label: 0/OFF - I/ON	8604A1-21-1-01-2-2	201437	0.325	
			Handle: red Protective collar: black Designation label: 0/OFF - I/ON	8604A1-21-1-01-3-2	201438	0.325
		Ø 122.5 mm; can be padlocked in 0 position using max. 3 padlocks for safety switch; cover can only be removed in I/ON position!				
		Handle: black Protective collar: black Designation label: 0/OFF - I/ON	8604A1-22-1-01-1-2	201439	0.325	
		Handle: red Protective collar: yellow Designation label: 0/OFF - I/ON	8604A1-22-1-01-2-2	201451	0.325	
			Handle: red Protective collar: black Designation label: 0/OFF - I/ON	8604A1-22-1-01-3-2	201453	0.325
		for switch with 6 poles: Ø 180 mm; can be padlocked in 0 position using max. 3 padlocks				
		Handle: black Protective collar: black Designation label: 0/OFF - I/ON	8604A1-31-1-01-1-2	201454	0.830	
		Handle: red Protective collar: yellow Designation label: 0/OFF - I/ON	8604A1-31-1-01-2-2	201456	0.830	
			Handle: red Protective collar: black Designation label: 0/OFF - I/ON	8604A1-31-1-01-3-2	201457	0.830
		for switch with 6 poles: Ø 180 mm; can be padlocked in 0 position using max. 3 padlocks for safety switch; cover can only be removed in I/ON position!				
		Handle: black Protective collar: black Designation label: 0/OFF - I/ON	8604A1-32-1-01-1-2	201459	0.830	
		Handle: red Protective collar: yellow Designation label: 0/OFF - I/ON	8604A1-32-1-01-2-2	201460	0.830	
		Handle: red Protective collar: black Designation label: 0/OFF - I/ON	8604A1-32-1-01-3-2	201461	0.830	