

## electrical equipment for fans

### Safety switch type IS

To disconnect the supply circuit of one-phase or three-phase motors of rated current up to 16A. It is possible to block the setting wheel in position O-OFF. It is suggested to install it close to the fan.



Type	Part no.	Supply voltage [V]; 50 Hz	Current range [A]
IS	843W30	230/3x400	0-16

### Motor protective switch type WS-1

For direct connecting/disconnecting the one-phase and three-phase motors. Contains short-circuit and overload protection. Protects the motor against damage, in case of blocked start-up, overload, short-circuit and fade of one phase, in three-phase circuits.



Type	Part no.	Supply voltage [V]; 50 Hz	Motor rate [kW]	Current range [A]
WS-4-1	843W12	230	0,37	2,5-4
WS-6,3-1	843W06	230	0,55-0,75	4-6,3
WS-10-1	843W08	230	1,1	6,3-10
WS-1,6-3	843W47	3x400	0,55	1-1,6
WS-2,5-3	843W07	3x400	0,75	1,6-2,5
WS-4-3	843W09	3x400	1,1-1,5	2,5-4
WS-6,3-3	843W10	3x400	2,2	4-6,3
WS-10-3	843W11	3x400	3,0	6,3-10
WS-14-3	843W48	3x400	5,5	9-14
WS-18-3	843W49	3x400	7,5	13-18

### Motor starter type RS

For direct connecting/disconnecting the one-phase and three-phase motors. Provides overload- and under-voltage protection and is equipped with a switch-on signalling.



Type	Part no.	Supply voltage [V]; 50 Hz	Motor rate [kW]	Current range [A]
RS-3,7-1	816R01	230	0,37	2,6-3,7
RS-5,5-1	816R02	230	0,55	3,7-5,5
RS-8-1	816R05	230	1,1	5,5-8
RS-2,6-3	816R15	3x400	0,75	1,8-2,6
RS-1,8-3	816R10	3x400	0,55	0,8-1,2
RS-3,7-3	816R11	3x400	1,1	2,6-3,7
RS-5,5-3	816R12	3x400	1,5	3,7-5,5
RS-8-3	816R14	3x400	2,2-3,0	5,5-8
RS-14-3	816R21	3x400	5,5	10-14
RS-16-3	816R20	3x400	7,5	12-16
RS-11,5-3	816R18	3x400	4,0	8-11,5

### Motor start type ŁS-1

For direct connecting/disconnecting the one-phase or three-phase motors, of rated current up to 16A. The motor start does not provide protective functions.



Type	Part no.	Supply voltage [V]; 50 Hz	Current range [A]
ŁS-1	816Ł01	230/3x400	0-16

### Speed governor type RP

For voltage speed control of the fans with one-phase motors. Short-circuit protection and kickstart function.



Connect the speed governor according to the connection diagram in the User's Manual.

Type	Part no.	Supply voltage [V]; 50 Hz	Current range [A]	Motor rate [kW]
RP-5-K	811R05	230	0,5-6	0,37-0,55
RP-10-K	811R06	230	0,5-10	0,75-1,1

### Inverter type FA/3

For speed control of the fans with three-phase motors. It is possible to program it for the application specified by Customer.



Type	Part no.	Motor rate [kW]	Supply voltage [V]; 50 Hz	Maximum continuous output current [A]
FA/3/0,75	816F13	0,55-0,75	3x400	2,2
FA/3/1,1/1,5	816F14	1,1-1,5	3x400	3,7
FA/3/2,2	816F15	2,2	3x400	5,1
FA/3/3,0	816F16	3,0	3x400	7,2
FA/3/5,5	816F17	5,5	3x400	12
FA/3/7,5	816F18	7,5	3x400	16
FA/3/12/15	816F19	12,0-15,0	3x400	30,5
FA/3/18,5	816F20	18,5	3x400	37
FA/3/22,0	816F21	22,0	3x400	43,5

# electrical equipment for fans

## Potentiometer

The potentiometer enables setting of the requested value of rotational speed for fans equipped with motors that are EC electronically commutated.

	Type	Part no.	Supply voltage [V]; 50–60 Hz	Output	Output setting		Remarks
					Min.	Max.	
	P-EC	840P99	230	analogue signal, 1-10 VDC, 2-20 mA or PWM (with constant frequency 5 kHz)	1-7 VDC/2-14 mA/ 10-70%	3-10 VDC/6-20 mA/ 30-100%	<ul style="list-style-type: none"> <li>• built-in switch with function ON / OFF</li> <li>• wall installing</li> </ul>

## Control unit for remote control of the fan – type ZE-Z

ZE-Z type control unit is designed for installing in the garage room or other room, indicated by User.

Is equipped with a control mode switch, with positions:

- O – control switched off,
- L – local control,
- Z – remote control.

Local control (L) – to start the fan from the ZE-Z control unit, by pressing the green pushbutton "START", whereas the red pushbutton "STOP" switches it off.

Remote control (Z) – switches on the fan by means of the auxiliary control units ZP-1/24V, ZP-2/24V or through radio, by means of a radio transmitter and radio receiver (exhaust extractors with balancer).

Control unit, depending on the motor rate, is equipped with an adequately selected motor disconnector and contactor. The control unit is provided with short-circuit, thermal protection.

Control units used to operate the fans of motor rate above 5 kW provide a soft start of the fan by means of a star-delta starting system.

	Type	Part no.	Supply voltage [V]; 50 Hz	Motor rate [kW]	Current range of thermal protection [A]	Devices to work with
	ZE-Z1-4	816Z80	230	0,37	2,5-4	WPA-3-(E, S)-1-N,
	ZE-Z1-6,3	816Z81	230	0,55	4-6,3	WPA-5-(D, E, S)-1-N, WPA-6-(D, E, S)-1-N
	ZE-Z1-10	816Z82	230	1,1	6,3-10	WPA-7-(D, E, S)-1-N
	ZE-Z3-1,6	816Z75	3x400	0,55	1-1,6	WPA-5-(D, E, S)-3-N
	ZE-Z3-2,5	816Z85	3x400	0,75	1,6-2,5	WPA-6-(D, E, S)-3-N
	ZE-Z3-4	816Z86	3x400	1,1	2,5-4	WPA-7-(D, E, S)-3-N WPA-8-(D, E, S)-3-N
	ZE-Z3-6,3	816Z87	3x400	2,2	4-6,3	WPA-9-(D, E, S)-3-N
	ZE-Z3-10	816Z88	3x400	3,0-4,0	6,3-10	WPA-10-(D, E, S)-3-N
	ZE-Z3-13-Y/D	816Z03	3x400	5,5	9-13	WPA-11-(D, E, S)-3-N
	ZE-Z3-17-Y/D	816Z04	3x400	7,5	11-17	WPA-13-(D, E, S)-3-N
	ZE-Z3-32-Y/D	816Z05	3x400	15	22-32	WPA-14-S-3-N

## Auxiliary control units Type ZP-1/24V and ZP-2/24V – for remote control of the fan, by cable

Supporting control units Type ZP-1/24V and ZP-2/24V – designed for remote control, manual control, cable control of the fan, from the chosen place. They work with control units ZE-SSAK and ZE-Z. The control mode switch in the control unit must be set into position (Z) – remote control.

	Type	Part no.	Remarks
	ZP-1/24V	811Z02	Provides possibility of controlling the fan function from another selected place: <ul style="list-style-type: none"> <li>• button "start" – Normally Open contact (NO),</li> <li>• button "stop" – Normally Closed contact (NC),</li> <li>• signalling lamp z4V.</li> </ul>
	ZP-2/24V	811Z03	Provides possibility of controlling the fan function from another selected place, switch by a Normally Open contact (NO) and a signalling lamp.