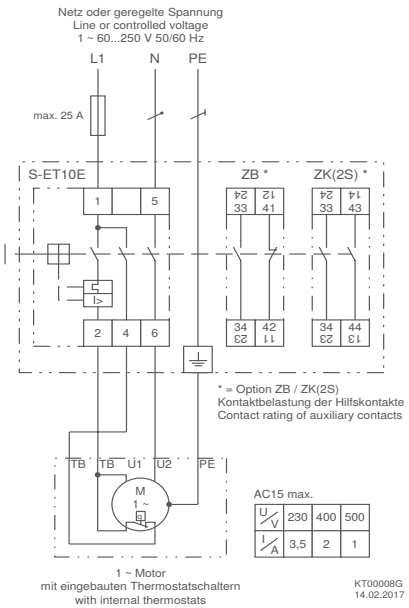
Motor protection units

For monitoring thermostats (TB)

Complete motor protection is implemented by connecting the thermostat, which is integrated into the motor, to the motor protection unit. Most ZIEHL-ABEGG external rotor motors are equipped with thermostats (TB) in the winding. These thermostats open during high winding temperatures, facilitating the direct monitoring of the temperature in the motor, thus ensuring the direct protection of the motor.When the thermostat opens, the motor protection unit is triggered and has to be manually reset; this is done to prevent an unwanted reconnection after the motor has cooled off.

Additional functions of the 3~ STDT motor protection units:
They have an overcurrent trigger integrated. That means the device acts like a fuse and can be used for “current distribution”. The adjustable overcurrent trigger protects the cable leading to the connected motors. Dual terminals located on the input and output sides of the motor protection unit facilitate simple wiring of multiple motors or fans on the output side of a powerful controller.

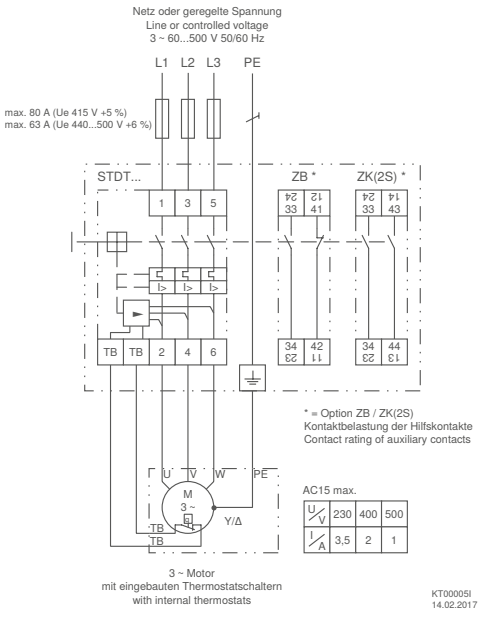
Connection diagram S-ET



① Line or controlled voltage
② Motor with integrated thermostats
③ Contact load of auxiliary contacts

* Option ZB/ZK(2S)

Connection diagram STDT



① Line or controlled voltage
② Motor with integrated thermostats
③ Contact load of auxiliary contacts

* Option ZB/ZK(2S)

Equipment/Characteristics

Complete motor protection
Automatic shut-off when connected thermostat „TB“ opens (direct temperature monitoring in the motor winding).

Integrated button
Switch connected motors on and off manually. Manual reset after motor fault (protection from unwanted restarting)

Optional: operating status contact
Type “ZB” with one open contact and one close contact
Type “ZK” with two close contacts

Optional padlock feature
Type „Zrep“ for the IP55 housing version. The motor protection unit can be locked during servicing (max. 3 locks)

Cable protection (only in 3~ STDT devices)
Via integrated overcurrent trigger, which can be adjusted to the cable cross section.

Accessories

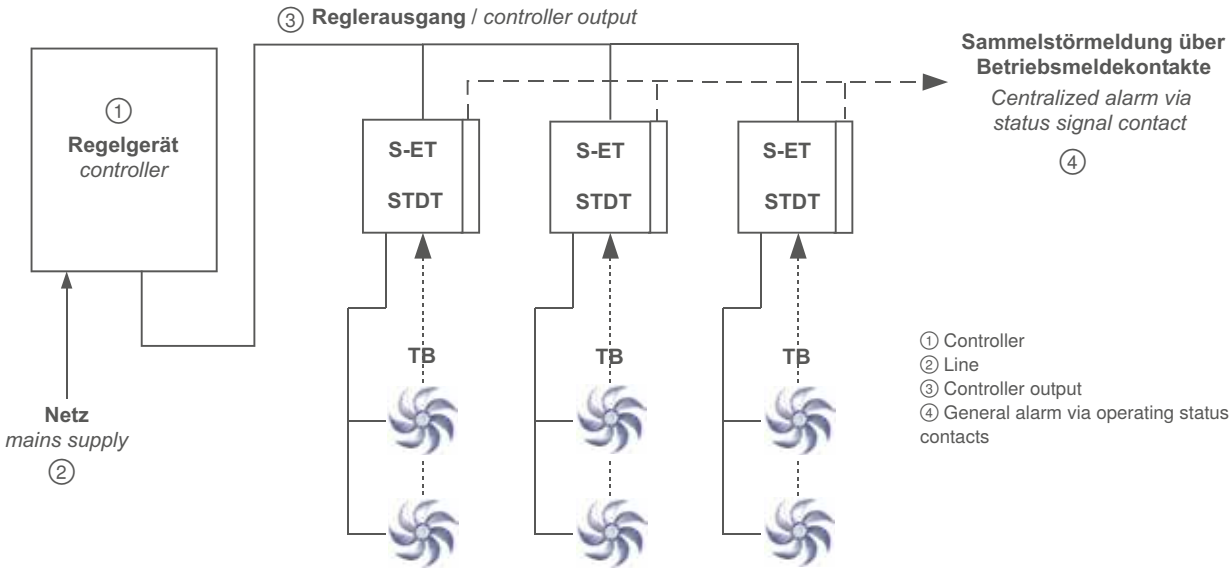
Type	Article no.	Weight kg
ZB	382013	0.03
ZK	382022	0.03
Zrep	382025	0.11

Motor protection units for monitoring thermostats (TB)

Line	Installation	Type	Article no.	Rated current A	Overcurrent trigger	Minimum ambient temperature °C	Maximum ambient temperature °C	Protection class	Weight kg	Dimensions (W x H x D) mm
1~ 60...250V 50/60Hz	Rail according to EN 60715	S-ET10E	382021	10		-25	55	IP20	0.17	45 x 80 x 85.5
1~ 60...250V 50/60Hz	Wall mounting	S-ET10	382020	10		-25	40	IP55	0.44	80 x 150 x 97.5
3~ 60...500V 50/60Hz	Rail according to EN 60715	STDT16E	382012	16	Overcurrent 10...16 A	-25	55	IP20	0.33	54 x 80 x 85.5
3~ 60...500V 50/60Hz		STDT25E	382015	25	Overcurrent 20...25 A	-25	55		0.50	54 x 80 x 85.5
3~ 60...500V 50/60Hz	Wall mounting	STDT16	382011	16	Overcurrent 10...16 A	-25	40	IP55	0.60	80 x 150 x 97.5
3~ 60...500V 50/60Hz		STDT25	382014	25	Overcurrent 20...25 A	-25	40		0.75	80 x 150 x 97.5

Application example

Motor protection units S-ET or STDT, depending on the line. With S-ET monitoring of individual fans, with STDT monitoring of several fans per motor protection unit possible. Thermostats are wired in series.



Electronic voltage controllers

1~ speed controller with rotary knob

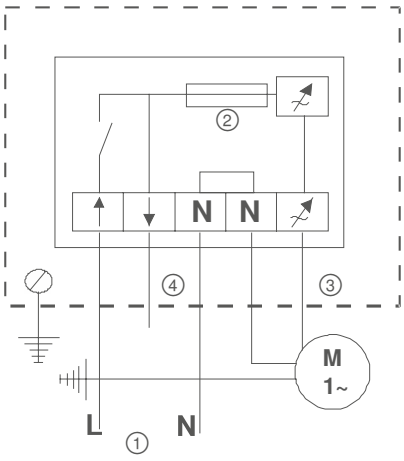
These devices for continuous speed control of one or more voltage-controlled 1~ fans have a knob installed at the front. This knob sets the desired speed. The speed controller starts with maximum output voltage for safe start-up of the fan.
An integrated operating indicator lamp shows the operating state of the speed controller.
Versions up to 4 Ampere:
Integrated switch function with the knob. One switched output for max. 1 Ampere.
Versions 6 and 10 Ampere:
Side integrated switch. One switched output for max. 6 Ampere.

Acontrol, function temperature controller with display and bypass main switch
1~ 230V 50/60Hz

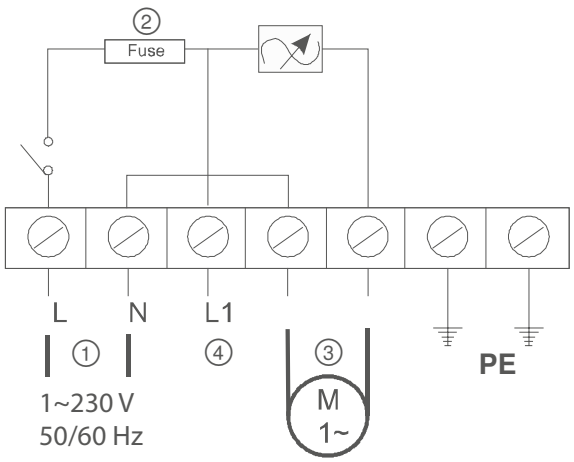
Type	Article no.	Rated current	Rated temperature	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	°C	°C		kg	mm
P-E-1	303586	1	35	35	IP54 / IP44	0.24	82 x 82 x 65
P-E-2.5	303587	2.5	35	35		0.18	82 x 82 x 65
P-E-4	303588	4	35	35	IP54	0.36	82 x 82 x 65
P-E-6	303589	6	35	35		0.68	127 x 202 x 96
P-E-10	303590	10	35	35		0.74	127 x 202 x 96

Connection diagram

P-E-1...4



P-E-6/10



① Mains connection: 1~230 V, 50/60 Hz
② Built-in fuse
③ Controlled output to the motor
④ Uncontrolled output 230 V, or bridging of the ON/OFF contact

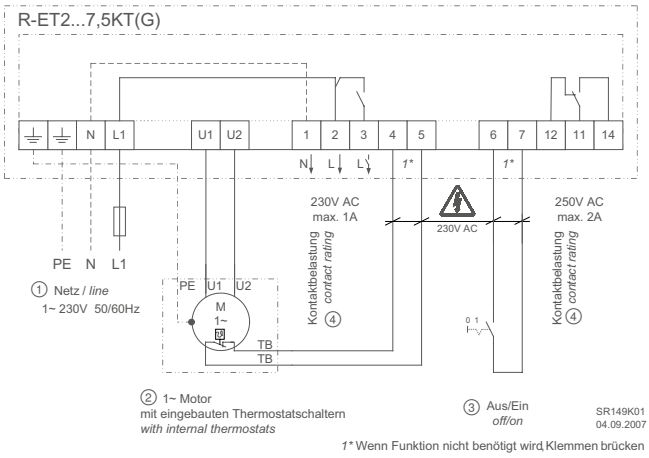
Transformer-based controllers

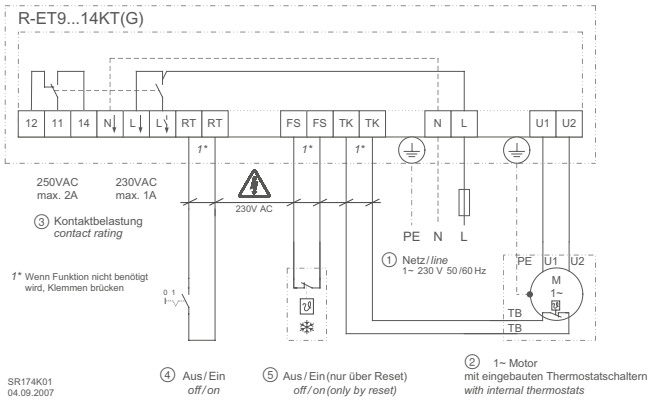
1~ with 5-step switch, with additional functions

Transformer-based controllers 1~ with 5-step-switch, with additional functions
1~ 230V 50/60Hz

Type	Article no.	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	°C	A	W	°C		kg	mm
R-ET2KTG	**302104**	2	40	16	25	40	IP54	2.10	166 x 230 x 118
R-ET3.5KTG	**302105**	3.5	40	16	35	40		3.50	166 x 230 x 118
R-ET6KTG	**302106**	6	40	16	40	40		4.90	166 x 230 x 118
R-ET7.5KTG	**302054**	7.5	40	8	45	40		6.10	240 x 284 x 132
R-ET9KTG	**302058**	9	40	16	55	40		10.50	270 x 323 x 162
R-ET12KT	**302059**	12	40	20	85	40	IP21	10.50	270 x 323 x 162
R-ET14KTG	**302060**	14	40	20	110	40	IP54	12.50	270 x 323 x 162

Connection diagram





① Line
② 1~ Motor with integrated thermostats
③ Off/On
④ Contact rating

1* If function is not needed, terminals must be bridged

① Line
② 1~ Motor with integrated thermostats
③ Contact rating
④ Off/On
⑤ Off/On (only via reset)

1* If fuction is not needed, terminals must be bridged

Transformer-based controllers

3~ with 5-step switch, with additional functions

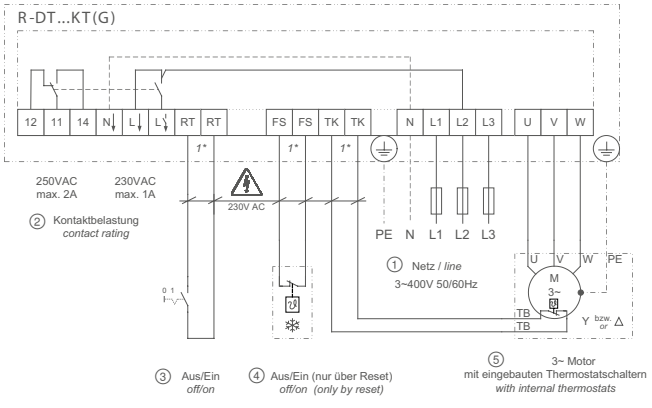
Tranformer-based controllers 3~ with 5-step-switch, with additional functions
3~ 230V 50/60Hz

Type	Article no.	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	°C	A	W	°C		kg	mm
R-DT3.5KTG	**302592**	3.5	40	6	65	40	IP54	7.40	240 x 284 x 132
R-DT7KT	**302593**	7	40	16	80	40	IP21	11.00	270 x 323 x 162
R-DT10KT	**302594**	10	40	16	85	40		15.60	270 x 323 x 162

Tranformer-based controllers 3~ with 5-step-switch, with additional functions
3~ 400V 50/60Hz

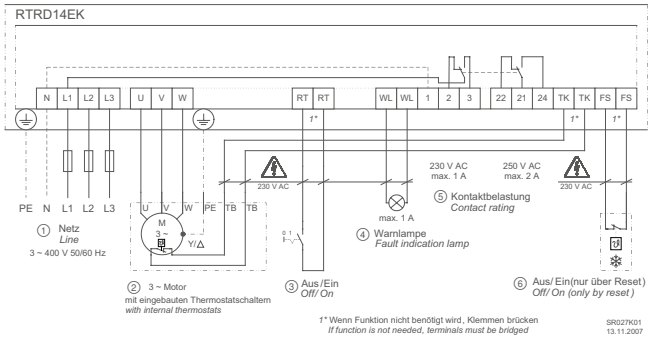
Type	Article no.	Rated current	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	°C	A	W	°C		kg	mm
R-DT1KTG	**302581**	1	40	4	40	40	IP54	4.70	240 x 284 x 132
R-DT2KTG	**302582**	2	40	4	50	40		7.40	240 x 284 x 132
R-DT3KTG	**302583**	3	40	6	60	40		11.00	270 x 323 x 162
R-DT4KT	**302584**	4	40	6	75	40	IP21	11.00	270 x 323 x 162
R-DT5.2KTG	**302585**	5.2	40	13	80	40	IP54	15.60	270 x 323 x 162
R-DT7KT	**302586**	7	40	16	110	40	IP21	15.60	270 x 323 x 162
RTRD14E	**302561**	14	40	25	145	40		30.50	450 x 290 x 164
RTRD14EK	**302562**	14	40	25	145	40		30.60	450 x 290 x 164

Connection diagram



① Line
② Contact rating
③ Off/On
④ Off/On (only via reset)
⑤ 3~ Motor with integrated thermostats

1* If function is not needed, terminals must be bridged



① Line
② 3~ Motor with integrated thermostats
③ Off/On
④ Warning lamp
⑤ Contact rating
⑥ Off/On (only via reset)

1* If function is not needed, terminals must be bridged

Potentiometer

Infinitely variable potentiometers for activating EC fans and controllers. The potentiometers are supplied with a supply voltage (10 V) from the EC fan or controller with a control voltage output of 0 - 10 V depending on the rotary knob setting.
Alternatively, the control voltage can be preset as a nominal value setting (external nominal value for the control) 0 - 10 V.

Equipment/Characteristics:

Rackmount version:
e.g. for installation in control cabinet doors
Axis length 50 mm, ∅ 6 mm
Included front plate: 40 x 40 mm
Included rotary knob

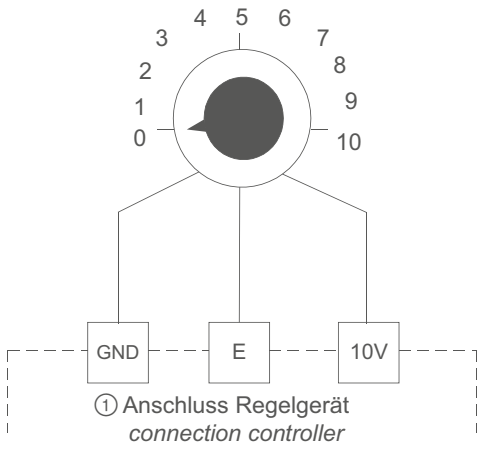
Design version in housing:
Surface mounting or mounting in existing flush receptacles. Device with additional switch contact.

Simple control via rotary knob
Set the desired resistance

Potentiometers

Type	Article no.	Mounting type	Setpoint range	Protection class	Weight kg	Dimensions (W x H x D) mm
Potentiometer 1K	**00153986**	Panel mounting	0...1kOhm	IP00	0.04	Shaft d 6 x 50
Potentiometer 10K	**00153989**	Panel mounting	0...10kOhm	IP00	0.04	Shaft d 6 x 50
Potentiometer 10K (IP54)	**380058**	Wall mounting	0...10kOhm	IP54	0.15	82 x 82 x 65

Connections



① Connection control unit