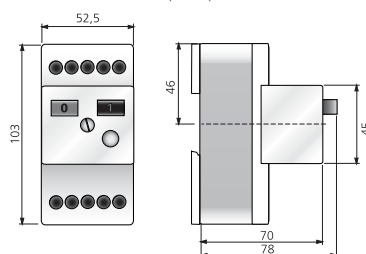### THERMAL CONTACT, TFA AND TFE

A unit to easily reset an overheated motor. Available with or without indicator for triggered thermal contact

The thermal contact relay is used for motors with protracted thermal contact conductors, and disconnects main supply if the motor's thermal contacts are open.
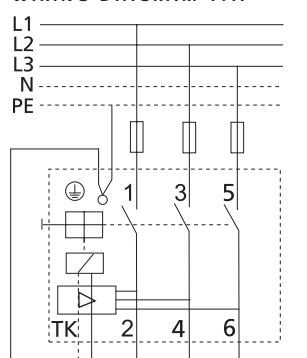
The thermal contact on the motor automatically resets when the motor has cooled, but the thermal contact relay must be reset manually by pressing the black button.

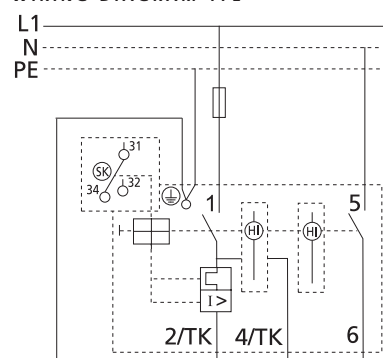TFA for 3-phase motors 400 V 0.1-25.0 A and TFE for single phase motors 230 V 0.4-10.0 A.

DIMENSIONS (mm)
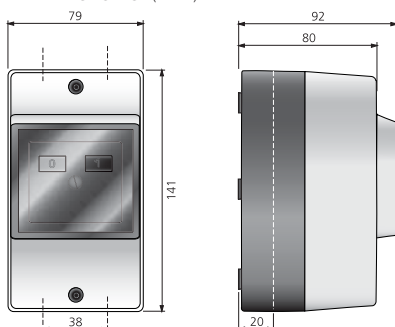
WIRING DIAGRAM TFA

WIRING DIAGRAM TFE

DIMENSIONS (mm)

ENCLOSURE

This enclosure fits thermal contacts TFA and TFE. This enclosure enables the TFA and TFE to be used in an IP 55 environment.

ELECTRICAL ACCESSORIES

Timers

WEEK TIMER, TR 612

2-channel electronic week timer for DIN rail mounting. Daily or weekly programmes, and automatically adjusts for daylight savings time. 4 year power reserve. 42 memory cells.

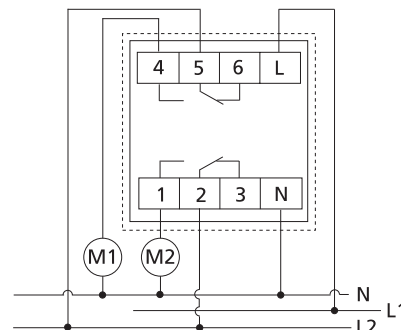Programming is done by free alignment, which means that days with different switching times only use one memory cell.

ENCLOSURE

This enclosure enables the week timer to be used in an IP 30 or 54 environment.

TECHNICAL DATA

Max. power	16 A
Time resolution	1 minute
Accuracy	<1s per day
Battery	6 year, lithium
Insulation class	IP 20

WIRING DIAGRAM

ELECTRONIC TIMER

Two options are available: 1-60 minutes or 1-8 hours. Running time is chosen during installation.

Pushing the button once activates the timer, and a second push turns it off. LED indicates when it is active.

The electronic timer is not compatible with the transformers VRDE or VRDT.

TECHNICAL DATA

Voltage	230 V
Frequency	50 Hz
Max. power	10 A
Lagging current	2.5 A
Switch	Single pole, relay
Dimensions	84x84x43 mm

EXTENSION FRAME

This extension frame is intended for use with the electronic timer when surface wall mounted.

TIMER 120

Timer 120 is available with breaking or change-over switches.

Timer 120 with change-over switch can be used with our transformers VRDE and VRDT.

Maximum time is 120 minutes, and they are available for recessed or surface wall mounting.
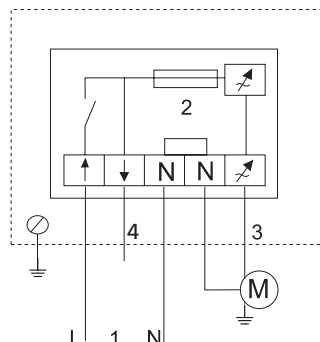
TECHNICAL DATA

Voltage	230 V
Frequency	50 Hz
Max. power	2.5 A
Switch	Breaking/change-over
Insulation class	IP 44
Dimensions	80x80x70 mm

WIRING DIAGRAM

DIMENSIONS (mm)
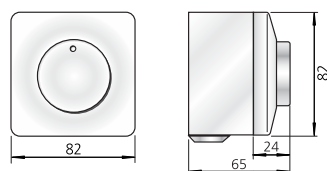
TECHNICAL DATA

|	
Voltage	230 V
Current	0.5, 1.0, 2.0 or 4.0 A
Insulation class	IP 54

SPEED CONTROLLER, VRS

For manual variable speed control of single-phase motors. Minimum speed is set by means of a screw under the knob. All single-phase fans from Östberg can be regulated with the VRS controller.
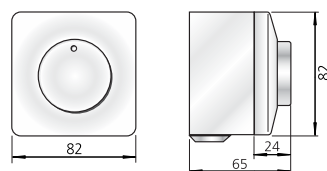
The controller is certified and approved as conforming to electrical safety and interference regulations on all markets.

Suitable for recessed as well as for surface mounting.

WIRING DIAGRAM
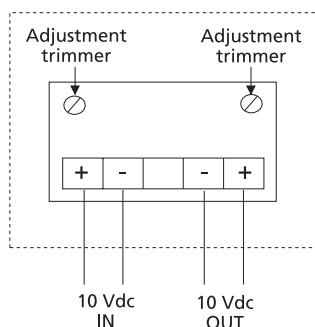
DIMENSIONS (mm)

TECHNICAL DATA

Voltage	10 Vdc
Current	1 mA
Insulation class	IP 54

SPEED CONTROLLER, MS FOR EC-MOTORS

For manual variable speed control of EC-motors. All fans with EC-motors from Östberg have 10 Vdc output that can be connected as supply to the controllers.

On the stepless control, Max and Min-mode can be set by adjustment screws under the knob.

On controllers with fixed locations, Pos. 1 and Pos. 2 are set by adjusting screws.

The controller is certified and approved as conforming to electrical safety and interference regulations on all markets.
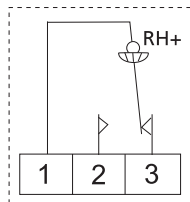
ELECTRICAL ACCESSORIES

Controllers and regulators

ROOM HUMIDISTAT, HR-S

HR-S is used to control the fans according to relative humidity. HR-S has a new synthetic sensor element that provides high accuracy. The setpoint can be anywhere between 35-95% RH.

WIRING DIAGRAM

RH+

1	2	3

TECHNICAL DATA

Breaking capacity	5 A 250 V AC variable switch
Humidity range	35-95% RH
Accuracy	+/- 4% RH
Max temperature	40 °C
Air speed	Max 1.5 m/s
Insulation class	IP30
Dimensions	86 x 86 x 30 mm

ROOM THERMOSTAT, TM1

TM1 is a is a single-step room thermostat with a change-over relay for either heating or cooling.

TM1 may be used with the internal or an external sensor. If the TM1 is used with the internal sensor. It should be mounted approx. 1.5 meters above floor level. Temperature range is 0-30° C.

TECHNICAL DATA

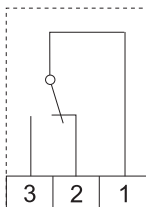|	
Voltage	230 V AC, +/-15%, 50-
Power	Max 3680 W (16 A)
Temperature range	0-30°C
Accuracy	1°C
Insulation class	IP20
Dimensions	86 x 86 x 30 mm

PRESSURE SWITCH, DTV

Pressure switch to monitor air handling units.

DTV is used e.g. to monitor the fans and filters. Switching points are easily set inside the sensor.

WIRING DIAGRAM

3	2	1

TECHNICAL DATA

|	
Breaking capacity	5 A, 250 V AC, variable switch
Setting range	20-200 Pa, 20-300 Pa, 50-500 Pa
Pressure settings	20-70 Pa
Temperature range	-20 °C - +85 °C
Max. diff. pressure	5000 Pa
Insulation class	IP 54
Connections	6 mm

ÖSTBERG

TECHNICAL DATA

|	
Voltage	210-415 V
Frequency	50/60 Hz
Max. output	16 A
Pulse period	60 sek
Insulation class	IP 20
Weight	0.3 kg
Dimensions	94 x 150 x 43 mm

WIRING DIAGRAM
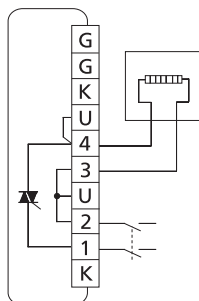
PULSER

PULSER is a complete proportional controller for electric heating (time proportional). PULSER can be connected to single or 2-phase voltage and has a built-in sensor and set point adjustment.

Max outputs 3.6 kW (230 V) or 5.4 kW (400 V).
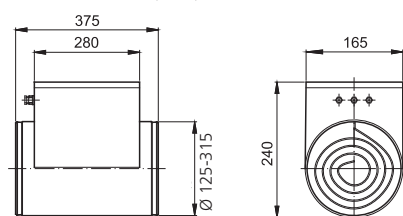
DIMENSIONS (mm)
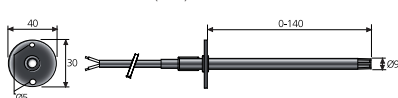
TECHNICAL DATA

Time constant	50 s
Temperature range	-30-+70°C
Insulation class	IP 20

TEMPERATURE SENSOR

For measuring air temperature in ventilation ducts. Is intended for use with PULSER to maintain the desired ventilation air temperature.

DIMENSIONS (mm)

ELECTRIC DUCT HEATER, CV

The CV electrical duct heater is manufactured from galvanized steel sheet with stainless steel elements. It is equipped with a bipolar overheating protection.

The duct heater is used with PULSER and a room or duct sensor.

Min. air speed: 1.5 m/s

mm		Efficiency	Min. flow
125	1-phase	0.9 kW	19 l/s
160	1-phase	0.9 kW	31 l/s
200	1-phase	1.8 kW	48 l/s
250	1-phase	2.1 kW	74 l/s
250	2-phase	5.0 kW	74 l/s

ELECTRICAL ACCESSORIES
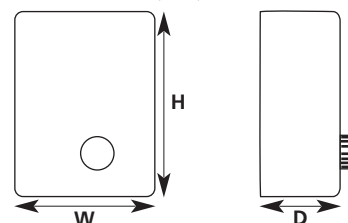
Controllers and regulators

TRANSFORMER CONTROLLER, VRTE

For manual 5-step voltage control with 0-position, and speed control of voltage controllable single-phase motors. Regulation controlled by switch at front.

Operation Indicator light on the housing. The controller is enclosed in a durable PVC housing.

DIMENSIONS (mm)

TECHNICAL DATA

	Voltage	Current	Insulation class
VRTE C	230 V	1.0 A	IP 54
VRTE 1	230 V	1.4 A	IP 54
VRTE 3	230 V	3.0 A	IP 54
VRTE 5	230 V	5.0 A	IP 54
VRTE 7	230 V	7.5 A	IP 54
VRTE 13	230 V	13.8 A	IP 54

OUTGOING VOLTAGES

VRTE C:	75 V, 110 V, 145 V, 180 V and 230 V
VRTE:	80 V, 110 V, 135 V, 165 V and 230 V

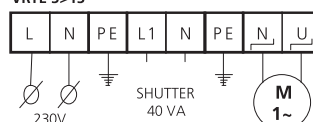|	W	x	H	x	D
VRTE C	84		160		88
VRTE 1	115		205		100
VRTE 3	170		255		140
VRTE 5	170		255		140
VRTE 7	200		305		140
VRTE 13	300		325		185

WIRING DIAGRAM

VRTE C
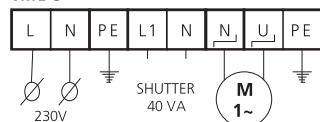
VRTE 1E
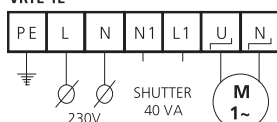
VRTE 3>13

TRANSFORMER CONTROLLER, VRTT

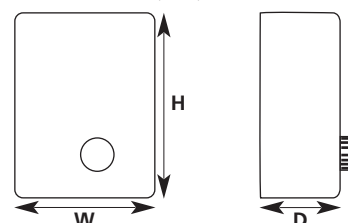For speed control of voltage controllable three-phase motors.

The thermal contact relays are connected to the motor's protracted thermal contact conductor. VRTT breaks the current when the motor gets overheated (is reset when the motor has cooled down and the switch is in 0-position).

The controller is enclosed in a durable PVC housing (VRTT 1-4) and steel sheet (VRTT 7-11).

DIMENSIONS (mm)

TECHNICAL DATA

	Voltage	Current	Insulation class
VRTT 1	400 V	1.4 A	IP 54
VRTT 2	400 V	2.0 A	IP 54
VRTT 4	400 V	4.0 A	IP 54
VRTT 7	400 V	7.0 A	IP 54
VRTT 11	400 V	11.0 A	IP 54

	W	x	H	x	D
VRTT 1	300		325		175
VRTT 2	300		325		175
VRTT 4	300		425		175
VRTT 7	300		425		235
VRTT 11	400		430		235

OUTGOING VOLTAGES

VRTT:	95 V, 145 V, 185 V, 240 V and 400 V

WIRING DIAGRAM

VRTT

ÖSTBERG
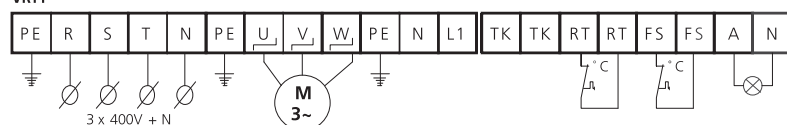
DIMENSIONS (mm)
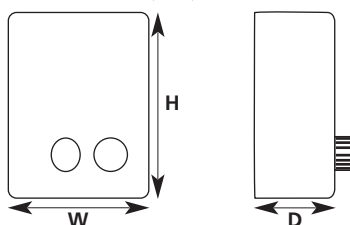
	W	x	H	x	D
VRDE 1.5	170		255		135
VRDE 3	200		305		140
VRDE 7	300		325		170
VRDE 13	300		425		225

WIRING DIAGRAM

VRDE
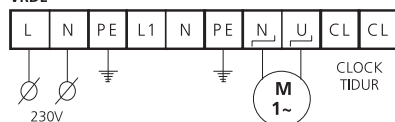
TRANSFORMER CONTROLLER, VRDE

A manual 5-step transformer controller with 0-position and high/low speed switch for speed control of voltage controllable single-phase motors.

Changeover is done with a potential switch e.g. timer, thermostat or humidistat.
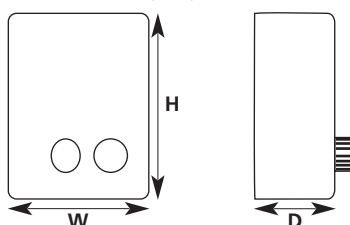Enclosed in a durable PVC housing.

TECHNICAL DATA

	Voltage	Current	Insulation class
VRDE 1.5	230 V	1.5 A	IP 54
VRDE 3	230 V	3.0 A	IP 54
VRDE 7	230 V	7.5 A	IP 54
VRDE 13	230 V	13.6 A	IP 54

OUTGOING VOLTAGES

VRDE: 60 V, 105 V, 130 V, 160 V and 230 V

TRANSFORMER CONTROLLER, VRDT

For speed control of voltage controllable three-phase motors.

The thermal contact relays are connected to the motor's protracted thermal contact conductor. VRDT breaks the current when the motor gets overheated (is reset when the motor has cooled down and the switch is in 0-position).
Enclosed in a durable steel sheet housing.

DIMENSIONS (mm)

	W	x	H	x	D
VRDT 2	300		425		175
VRDT 4	300		425		235
VRDT 7	400		425		235
VRDT 11	400		430		235

TECHNICAL DATA

	Voltage	Current	Insulation class
VRDT 2	400 V	2.0 A	IP 54
VRDT 4	400 V	4.0 A	IP 54
VRDT 7	400 V	7.0 A	IP 54
VRDT 11	400 V	11.0 A	IP 54

OUTGOING VOLTAGES

VRDT: 95 V, 145 V, 185 V, 240 V and 400 V

WIRING DIAGRAM

VRDT