

PW FAN UNITS - 19" ASSEMBLY

Fan units 1 U high, intended for assembly on 19" mounting profiles or in 19" swing frames.

In the standard version, they are equipped with between 2 and 6 fans, an illuminated switch and a fuse.

PW fan units can be controlled by thermostat or microprocessor panel for fan control.

Technical data:

Parameter	Type of fan unit			
	PW-1.2	PW-1.3	PW-2.4 PW-3.4	PW-2.6 PW-3.6
Power supply	230 V, 50 Hz			
Rated current [A]	0.24	0.36	0.48	0.72
Number of fans	2	3	4	6
Power rating [W]	30	45	60	90
Capacity [m³/h]	320	480	640	960
Ambient temperature [°C]	from -20 to +70			
Relative humidity [%]	from 20 to 80			
Protection degree	IP 20			
Electric shock protection	neutralization			

Material of enclosure:

Rear part - 1.5 mm thick sheet steel
Front panel - 3.0 mm thick sheet aluminium

Enclosure colour:

Light grey (RAL 7035) or black (RAL 9005)

Scope of delivery:

Fan unit with power cable (without plug) and fixing accessories.

Type of fan unit	Possibility of controlling fan units by		Catalogue number	
	KTS thermostat*	microprocessor panel for fan control**	RAL 7035	RAL 9005
PW-1.2	●		WZ-PW12-00-00-011	WZ-PW12-00-00-161
PW-1.3	●		WZ-PW13-00-00-011	WZ-PW13-00-00-161
PW-2.4	●	●	WZ-PW24-A0-00-011	WZ-PW24-A0-00-161
PW-2.6	●		WZ-PW26-00-00-011	WZ-PW26-00-00-161
PW-3.4	●		WZ-PW34-00-00-011	WZ-PW34-00-00-161
PW-3.6	●		WZ-PW36-00-00-011	WZ-PW36-00-00-161

Package: 1 pc.

*) Thermostat - see page 102

**) Microprocessor panels for fan control - see pages 104-105

Fans used in fan units:

PW, PWD and PD fan units are provided with high quality fans with ball bearings.

Technical data of one fan:

- voltage rating 230 V
- frequency 50 Hz
- power rating 22 W
- rated current 0.14 A
- speed of rotation 2 600 1/min
- level of noise about 40 dB
- pressure 75 Pa
- capacity 162 m³/h
- durability min. 50 000 h
- dimensions 119x119x38 mm



PW-1.2



PW-1.3



PW-2.4



PW-2.6



PW-3.4



PW-3.6

PWD AND PD ROOF FAN UNITS

PWD-4W and PWD-2W fan units are intended for assembly to 380 x 380 mm openings which are located in the top plates of SZB, OTS1, SZB PC, SZB SE and SZB SEI cabinets.

The PD-2W fan unit can be assembled to the 380 x 210 mm opening in the top plate of the SZB SE and SZB SEI cabinet.

In the standard version, the units are equipped with 2 or 4 fans, an illuminated switch and a safety device.

PWD-4W fan units can be controlled by thermostat or microprocessor panel for fan control.

PWD-2W and PD-2W fan units can be controlled only by thermostat.

Technical data:

Parameter	Typ panelu		
	PWD-4W	PWD-2W	PD-2W
Power supply	230 V, 50 Hz		
Rated current [A]	0,48	0,24	0,24
Number of fans	4	2	2
Power rating [W]	60	30	30
Capacity [m ³ /h]	640	320	320
Ambient temperature [°C]	from -20 to +70		
Relative humidity [%]	from 20 to 80		
Protection degree	IP 20 (refers to fan units mounted in the cabinet)		
Electric shock protection	neutralization		

Material of enclosure:

PWD-4W and PWD-2W fan units - plastic

PD-2W fan unit - sheet steel

Enclosure colour:

Light grey (RAL 7035) or black (RAL 9005)

Scope of delivery:

Fan unit with power cable (without plug) and fixing accessories.



Type of fan unit	Number of fans	For opening's dimensions [mm]	Possibility of controlling fan units by		Catalogue number	
			KTS thermostat*	microprocessor panel for fan control**	RAL 7035	RAL 9005
PWD-4W	4	380 x 380	●	●	WN-0200-06-01-011	WN-0200-06-01-161
PWD-2W	2	380 x 380	●		WN-0200-07-01-011	WN-0200-07-01-161
PD-2W	2	380 x 210	●		WN-0200-03-00-011	WN-0200-03-00-161

Package: 1 pc.

*) Thermostat - see page 102

**) Microprocessor panels for fan control - see pages 104-105

THERMOSTAT

Application:

Thermostats are used for controlling fan units, heaters and heat exchangers; they can also be used as signal generators for monitoring the internal temperature of the enclosure.

Technical data:

- Sensor element:
thermal bimetal
- Temperature range:
0-60 °C, hysteresis ca. 7 °C.
- Contact types:
snap action contact
- Power carrying capacity:
6 A (1) 250 V AC
- Radio frequency interference:
N (according to VDE 0875)

Scope of delivery:

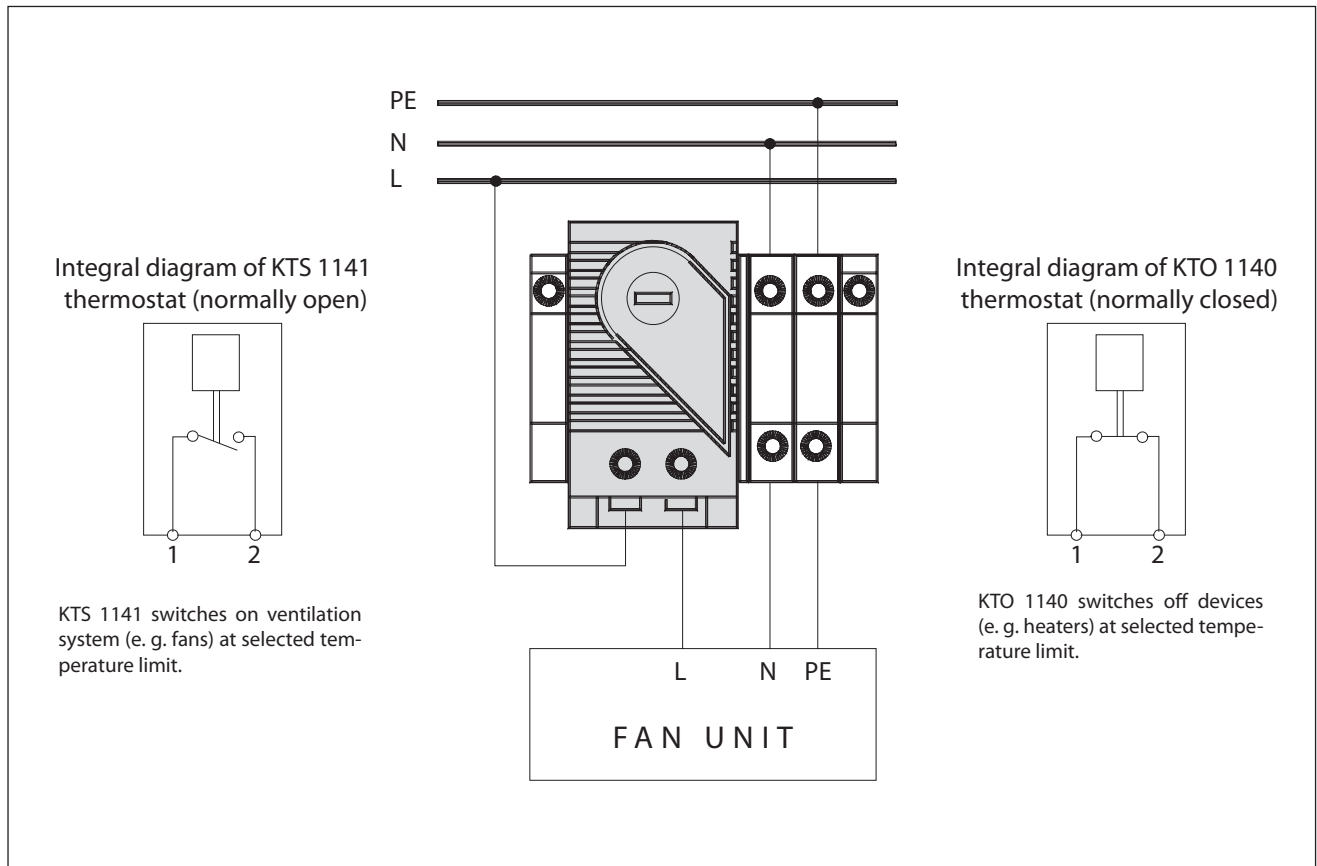
- KTS 1141 or KTO 1140 thermostat,
- DIN rail,
- two holders,
- two screw clamps.



KTS 1140 - thermostat normally open

Type of thermostat	Colour of handwheel	Package	Catalogue number
KTO 1140 - normally closed	●	1 pc.	WN-0201-01-00-000/A
KTS 1141 - normally open	●	1 pc.	WN-0201-02-00-000/A

Connection diagram



HYGROSTAT

Application:

Electric regulator of humidity controls air humidity, switches on fans, heaters or air conditioning units.

Technical data:

Measuring range:

50-100 % of relative humidity.

Measuring accuracy:

± 3 % of relative humidity.

Operating range:

50-90 % of relative humidity.

Deviation of switching referred to 50 % of relative humidity:

about 4 % of relative humidity.

Maximum voltage:

250 V AC.

Maximum load:

100 mA 20 V DC/AC.

Maximum load:

resistive 5 A, 230 V,

inductive $\cos \varphi = 0.8$: 0.2 A 230 V AC,

inductive L/R = 3 ms: 1 A to 50 V DC,
0.5 A to 75 V DC.

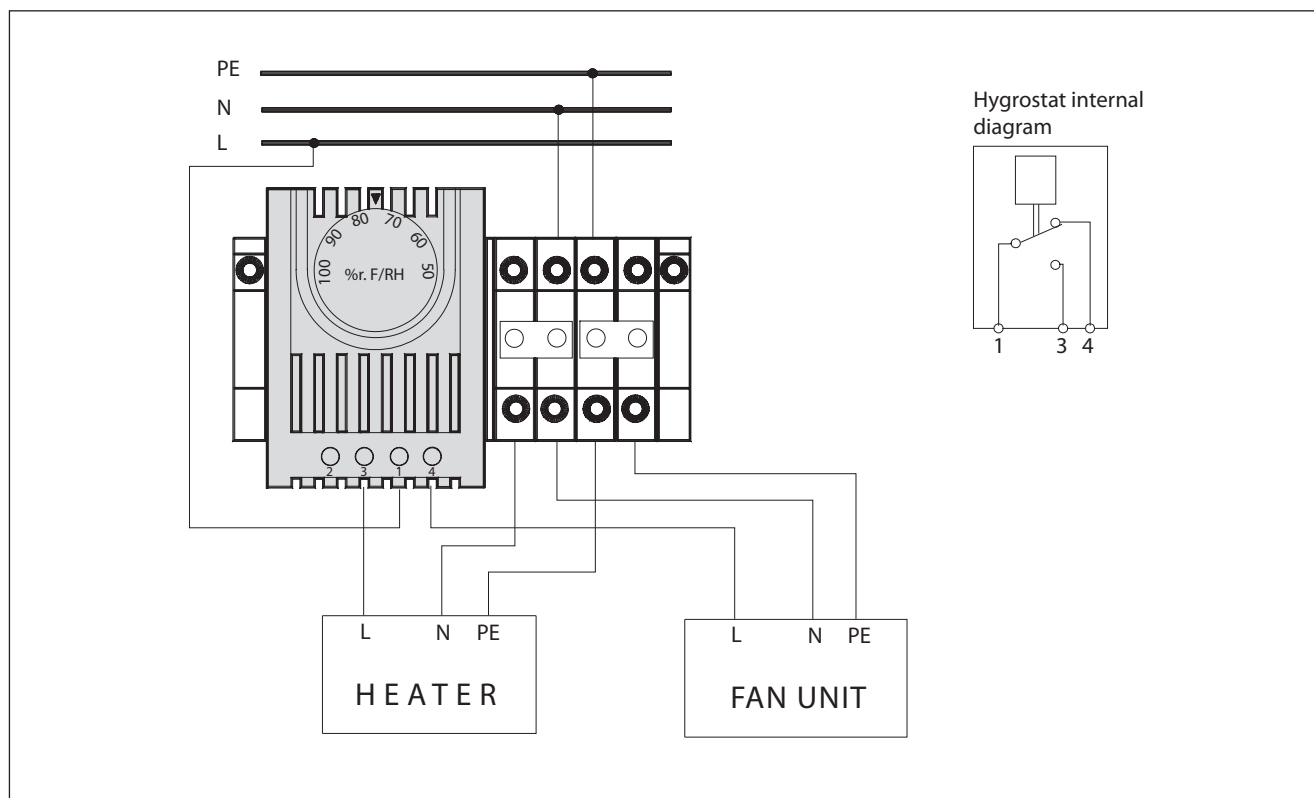
Scope of delivery:

- hygrostat MFR 012i,
- DIN rail,
- two holders,
- two screw clamps.



Hygrostat	Package	Catalogue number
MFR 012i	1 pc.	WN-0201-03-00-000

Connection diagram



MPSK G0 MICROPROCESSOR PANEL FOR FAN CONTROL

Application:

Microprocessor panel for fan control is designed for measurement, control and automatic cabinet temperature maintenance at the pre-set threshold in 19" cabinets.

Principle of operation:

Panel temperature sensor continuously monitors and compares current temperature with pre-set threshold value, and causes switch on the fans of alternating current in four sequences.

Function possibilities:

- continuous temperature measurement,
- automatic fan selection for maintenance of pre-set parameters,
- possibility of service from PC by using RS 232 interface (data transmission in both directions),
- memory storage of pre-set parameters in case of power supply interruption,
- priority signalling (ex. alarm signal) on RS 232 interface in the event of switched all fans sequences (LED display blinks).

Scope of delivery:

Microprocessor panel for fan control, temperature sensor with 2 m cable, fixing accessories.

Software for communication with the MPSK G0 panel via a serial port can be downloaded from our web site at www.zpas.pl

Product name	Package	Colour	Catalogue number
MPSK G0 microprocessor panel for fan control with temperature sensor	1 set	RAL 7035	WZ-SB66-00-00-011
		RAL 9005	WZ-SB66-00-00-061

Technical data:

Temperature measurement:

- measurement range from +5 °C to +80 °C
- indication resolution ±1 °C
- measuring accuracy ±1 °C

Setting parameters:

- control range of pre-set temperature threshold value from +5 °C to +80 °C
- tolerance range from the temperature threshold value from +1 °C to +10 °C
- delay range of switching on/off fans from 1 s to 99 s
- recovery time from the setting function to measurement: 10 s.

Displaying of measuring parameters:

Two-digit module LED:

- digits' height 14 mm
- green colour
- improved quality

Housing form:

- 19" panel 1 U height, light grey colour (RAL 7035) or black (RAL 9005).

Communication protocol with computer:

Parameters of RS 232 interface:

- transmission speed rate 9600 b/s
- 8 bits, without even parity bit
- 1 stop bit

Temperature sensor:

Miniature, fixed to metal structure by means of latch, cable length - 2 m

Fan connections:

- number of inputs - 4
- power supply - 230 V, 50 Hz
- input's power carrying capacity - 100 W

Power supply of the panel: 230 V, 50 Hz

Max. power consumption: 2 W



MPSK G0 mikroprocessor panel for fan control

MPSK G1 MICROPROCESSOR PANEL FOR FAN CONTROL AND CABINET SAFETY MONITORING

Intended purpose:

The basic function of the control device is overheating and over-cooling protection of devices installed in the 19" standard cabinets by measuring temperature and humidity levels in selected points within the cabinet and appropriate control of fans placed in the ventilation panel and heaters.

In addition, the control device makes it possible to supervise cabinet safety by monitoring two-step sensors (e.g. sensors signalling door-opening, flooding, power failure, smoke, etc.) and recording changes in status as events (with a time record) in the history of events which can then be read by the master system (e.g. PC) via a serial port. The event-recording function is also used to save e.g. instances of temperature and humidity sensors exceeding preset alarm levels and instances of detecting sensor failure.

Fully compatible with fire-extinguishing systems, the control unit cuts off power supply to output devices (fans, heaters) in the event of a fire hazard.

In the standard version, the control device is provided with a serial port which, in addition to event viewing, enables full remote control of the device. Communication is effected in the RS 232 or RS 485 standard via the Modbus protocol. Optionally, the MPSK G1 panel can be equipped with the Ethernet or USB interface.

Usable functions:

- 4 relay outputs for fan control.
- 1 relay output for heater control.
- 3-step control of fan unit operations by switching 2 or 4 fans depending on the maximum temperature of sensors.
- cooperation with the 4-fan or 6-fan panel (double parallel connection of two fans).
- function of uniform fan wear with programmable switching period.
- 3 two-step inputs for event-recording sensors activated e.g. by cabinet door opening or shock.
- event-recording function, activated e.g. by changes of the two-step input state, exceeding alarm levels of sensor temperature, sensor failure, fan failure, power supply failure (with max. 100 events recorded).
- built-in device clock, memory of settings, states and recorded events, battery-supplied.
- asynchronous RS 232 or RS 485 serial interface for communication with the master system to monitor sensor states, read recorded events, read and record settings and system time of the device.
- for each sensor, programmable and recordable settings of fan activation levels, hysteresis, alarm levels and correction factors of measurement errors.
- LCD display, 2x16 characters with illumination and 4-button keyboard for device programming and monitoring.
- password-protected access to settings and configuration via panel buttons and the serial interface.
- option of manual fan and heater control.



MPSK G1 panel with connected integrated temperature and humidity sensor

Parameters:

- Power supply: 12 V DC, 1 A
- Relay outputs: 250 V AC/DC, 16 A
- Measuring range: temperature from -50 °C to +99 °C; humidity from 10 % to 90 %
- Measurement accuracy: temperature 1 °C; humidity 1 %
- Dimensions: 19" x 1 U x 150 mm

Scope of delivery:

Control panel with fixing accessories for assembly inside a cabinet.

Note: For the device to operate properly, a temperature or humidity sensor is needed, that has to be ordered separately.

Product name	Package	Colour	Catalogue number
MPSK G1 microprocessor panel for fan control	1 pc.	RAL 7035	WN-0201-05-00-011
Temperature sensor with 2 m cable	1 pc.	–	WN-0201-06-00-000
Integrated temperature and humidity sensor with 2 m cable	1 pc.	–	WN-0201-08-00-000
ERS converter RS232/Ethernet	1 pc.	–	T1Z-00-0004
Connecting cable for ERS converter	1 pc.	–	T1Z-00-0005

Software for communication with the MPSK G1 panel via a serial port can be downloaded from our web site at www.zpas.pl