# DigiTOP®

2024

RELIABLE PROTECTION
AND COMFORT IN YOUR HOUSE

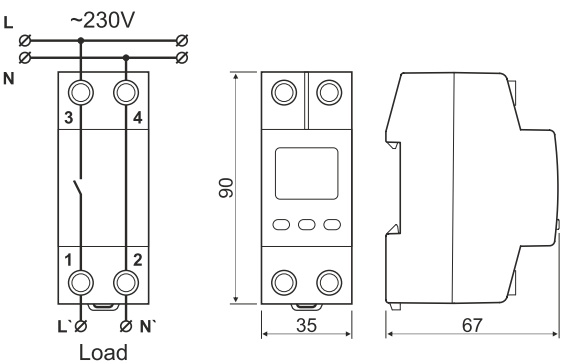
# CONTENTS

**VP-20A G3**

**VP-25A G3**

**VP-32A G3**

Voltage relays are designed to automatically switch off the load connected by it, if the value of the voltage in the electrical network exceeds the permissible limits. The load turns on automatically when the voltage returns to the set range.




**Technical data**

- Single-phase
- TrueRMS
- Overheat protection
- Work with voltage sources with unstable frequency
- Digital settings control
- Display of effective voltage
- Display of the last tripping voltage
- Automatic load reconnection after voltage normalization
- Factory reset function
- Voltmeter calibration function
- Modular design for DIN rail mounting (TS-35)

**Programmable settings**

- Upper and lower voltage limits
- Load connection delay time
- Operating frequency selection
- Brightness
- Buttons autolock

**VP-40A G3**

**VP-50A G3**

**VP-63A G3**

## TECHNICAL SPECIFICATIONS

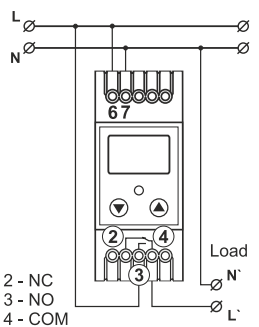
| | VP-20A G3 | VP-25A G3 | VP-32A G3 | VP-40A G3 | VP-50A G3 | VP-63A G3 |
|---|---|---|---|---|---|---|
| Rated load current | 20A | 25A | 32A | 40A | 50A | 63A |
| Maximum load current | 25A | 32A | 40A | 50A | 60A | 80A |
| Operating voltage | 50-400 V | | | | | |
| Mains frequency | 45-65 Hz | | | | | |
| Upper limit response time | 0,02 sec | | | | | |
| lower limit response time | 1(120-170V), 0,02(<120V) sec, no more | | | | | |
| Upper voltage limit | 210-270 (250*) V | | | | | |
| Lower voltage limit | 120-200 (170*) V | | | | | |
| Load connection delay time | 5-600(15*) sec | | | | | |
| Brightness | 1-9(7*) | | | | | |
| Voltage measurement accuracy | 1% | | | | | |

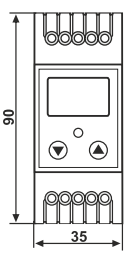
* - factory settings

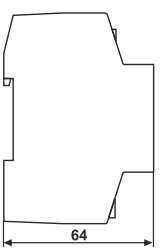
**VP-16A**


**VP-16Af**


DigiTOP VP-16A / VP-16Af voltage relay is designed to automatically switch on/off the load connected by it, if the voltage value in the electrical network exceeds the permissible limits. The load turns on automatically when the voltage returns to the set range.




**Technical data**

- Single-phase
- Digital settings control
- Display of current voltage value
- Automatic load switching after voltage normalization
- Voltmeter calibration capability
- Modular design for DIN rail mounting (TS-35)

**Programmable settings**

**VP-16A**

Voltage relay

- Upper voltage limit
- Lower voltage limit
- Load connection delay time

**VP-16Af**

Maximum voltage relay

- Upper voltage limit
- Voltage hysteresis
- Switch-on response time

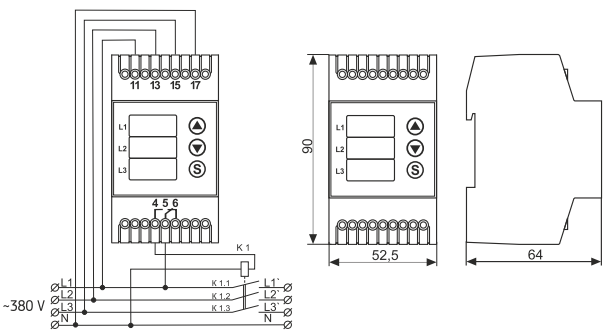
## TECHNICAL SPECIFICATIONS — VP-16A / VP-16Af

| | |
|---|---|
| Rated load current | 10 A |
| Maximum load current | 16 A |
| Operating voltage range | 50 - 400 V |
| Upper limit response time | 0,02 sec |
| lower limit response time | 1(<200V), 0,02(<120V) sec |
| Upper voltage limit | 210-270 (250*) V |
| Lower voltage limit (VP-16A) | 120-200 (170*) V |
| Load connection delay time (VP-16A) | 5-600(15*) sec |
| Voltage hysteresis (VP-16Af) | 1-10 (5*) V |
| Switch-on response time (VP-16Af) | 0-10 (1*) sec |
| Contact type | toggle (NO+NC) |
| Voltage measurement accuracy | 1% |

* - factory settings

## VP-380V


DigiTOP VP-380V voltage relay is designed to protect industrial and domestic three-phase equipment from over- or under-voltage, voltage drop, voltage asymmetry (unequal phase load), phase sequence control (function can be disabled).




### Technical data

- Three-phase
- Digital settings control
- Display of current voltage value
- Automatic load switching after voltage normalization
- Voltmeter calibration capability
- Modular design for DIN rail mounting (TS-35)

### Programmable settings

- Upper and lower voltage limits
- Load connection delay time
- Allowable phase asymmetry value
- Control of alternating phase sequence

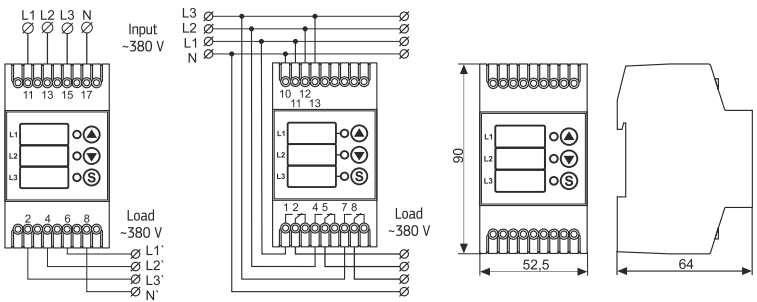
| TECHNICAL SPECIFICATIONS | VP-380V |
|---|---|
| Rated load current | 6 A |
| Maximum load current | 10 A |
| Operating voltage range for each phase | 50-400 V |
| Upper limit cut-off time | 0,02 sek |
| lower limit cut-off time | 1(<200V), 0,02(<120V) sec |
| Cut-off time for phase imbalance | 20 sec |
| UUpper limit response time | 210-270 (250*) V |
| lower limit response time | 120-200 (170*) V |
| Load connection delay time | 5-600 (15*) sec |
| Phase asymmetry | 20-99 (50*) V |
| Control of alternating phase sequence | on/off (off*) |
| Contact type | toggle (NO+NC) |
| Voltage measurement accuracy | 1% |

* - factory settings

**VP-3F10A**


**VP-3F10Af**


VP-3F series voltage relays are designed to protect single-phase or three-phase loads from over- or under-voltage, voltage drop, asymmetry and phase sequence control (function can be disabled). The relays can operate as three single-phase relays.




## Technical data

- Three-phase / Three single-phase
- Digital settings control
- Display of current voltage value for each phase
- Automatic load switching after voltage normalization
- Voltmeter calibration capability
- Mounting on TS-35 mounting profile (DIN rail)

## Programmable settings

| **VP-3F10A** | **VP-3F10Af** |
|---|---|
| Voltage relay | Maximum voltage relay |
| - Upper and lower voltage limits | - Upper voltage limit on each fase |
| - Load connection delay time | - Voltage hysteresis on each fase |
| - Allowable phase imbalance value | - Switch-on response time on each fase |
| - Synchronous / asynchronous mode | - Synchronous / asynchronous mode |

## TECHNICAL SPECIFICATIONS — VP-3F10A / VP-3F10Af

| | |
|---|---|
| Rated / Maximum load current | 10 / 16A |
| Operating voltage range for each phase | 50-400V / 50 Hz |
| Upper limit response time | 0,02 sec |
| Lower limit response time | 1sec (<170V)/0,02sec (<120V) |
| Phase imbalance response time (VP-3F10A) | 20 sec |
| Upper voltage limit | 210-270 (250*) V |
| Lower voltage limit | 120-200 (170*) V |
| Load connection delay time | 5-600 (15*) sec |
| Voltage hysteresis (VP-3F10Af) | 1-50 (5*) V |
| Switch-on response time (VP-3F10Af) | 0-90 (1*) sec |
| Phase asymmetry (VP-3F10A) | 20-99 (50*) V |
| Operation mode | sync/async (async*) |
| Phase sequence control (VP-3F10A) | on/off (off*) |
| Voltage measurement accuracy | 1% |
| Housing size (17.5 mm modules) | 3 |

* - factory settings

**VP-3F40A**


**VP-3F63A**

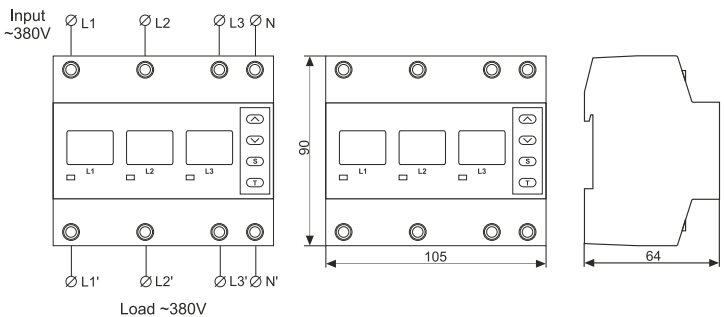

**Technical data**

- Three-phase / Three single-phase
- Digital settings control
- Display of current voltage value for each phase
- Automatic load switching after voltage normalization
- Voltmeter calibration capability
- Mounting on TS-35 mounting profile (DIN rail)

**Programmable settings**

- Upper and lower voltage limits
- Load connection delay time
- Allowable phase imbalance value
- Synchronous / asynchronous mode

VP-3F series voltage relays are designed to protect single-phase or three-phase loads from over- or under-voltage, voltage decay, asymmetry and phase sequence control (function can be disabled). The relays can operate as three single-phase relays.




| TECHNICAL SPECIFICATIONS | VP-3F40A | VP-3F63A |
|---|---|---|
| Rated load current per phase | 40 A | 63 A |
| Maximum load current per phase | 50 A | 80 A |
| Operating voltage range | 50 - 400 V | |
| Mains frequency | 45-65 Hz | 45-65 Hz |
| Upper limit response time | 0,02 sec | |
| lower limit response time | 1sec(<170V) / 0,02sec(<120V) | |
| Phase imbalance response time | 20 sec | |
| Upper voltage limit | 210-270 (250*) V | |
| Lower voltage limit | 120-200 (170*) V | |
| Load connection delay time | 5-600 (15*) sek | |
| Phase asymmetry | 20-99 (50*) V | |
| Operation mode | synchronous/asynchronous (asyn*) | |
| Phase sequence control | on/off (off*) | |
| Voltmeter error | 1% | |
| Housing size (17.5 mm modules) | 6 | 6 |

* - factory settings

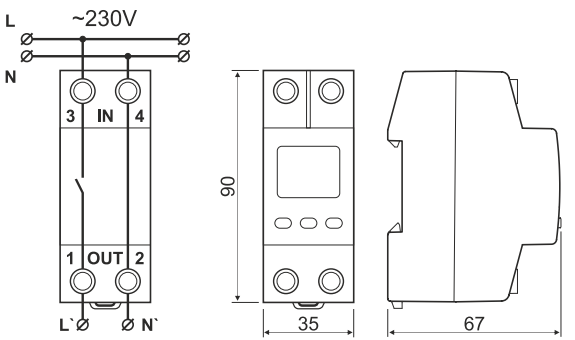
Voltage relays with current control VA series are used to protect single-phase loads from voltage fluctuations in the network and from overload and short-circuit currents. The load turns on automatically when the voltage returns to the set range, or manually when the current protection tripped.

**VA-25A G3**

**VA-32A G3**

**Programmable settings**

- Upper and lower voltage limits
- Load connection delay time
- Overcurrent protection
- Operating frequency selection
- Brightness
- Buttons autolock




**Technical data**

- Single-phase
- TrueRMS
- Overheat protection
- Operation with voltage sources with unstable frequency
- Digital settings control
- Display of current value of voltage
- Display of the current value of the alternating current
- Display of last trip voltage
- Automatic load reconnection after voltage normalization
- Factory reset function
- Voltmeter calibration function
- Modular design for DIN rail mounting (TS-35)

Reliable protection of household appliances from voltage changes.

**VA-40A G3**

**VA-50A G3**

**VA-63A G3**

| TECHNICAL SPECIFICATIONS | VA-25A G3 | VA-32A G3 | VA-40A G3 | VA-50A G3 | VA-63A G3 |
|---|---|---|---|---|---|
| Rated load current | 25A | 32A | 40A | 50A | 63A |
| Maximum load current | 32A | 40A | 50A | 60A | 80A |
| Operating voltage range | 50-400 V | | | | |
| Mains frequency | 45-65 Hz | | | | |
| Upper voltage limit response time | 0,02 sec | | | | |
| lower voltage limit response time | 1(120-170V), 0,02(<120V) sec, no more | | | | |
| Current limit cut-off time | Inom< I < Imax - 600 sec; Imax < I <2Imax - 5 sec | | | | |
| | (I ≥ 2Imax) - 0,04 sec | | | | |
| Upper voltage limit | 210-270 (250*) V | | | | |
| Lower voltage limit | 120-200 (170*) V | | | | |
| Load connection delay time | 5-600(15*) sec | | | | |
| Upper current limit | 1-25A | 1-32A | 1-40A | 1-50A | 1-63A |
| Brightness | 1-9(7*) | | | | |
| Voltage measurement accuracy, no worse | 1% | | | | |
| Current measurement accuracy , no worse | 2% | | | | |
| Housing size (modules 17.5 mm) | 2 | | | | |

* - factory settings

## VA-16Sens


Voltage relay DigiTOP VA-16Sens is used to protect single-phase consumers from voltage fluctuations in the network and from overload and short-circuit currents. The load turns on automatically when the voltage returns to the set range or manually when the current protection is tripped.

**Programmable settings**

- Upper and lower voltage limits
- Load connection delay time
- Overcurrent protection
- Operating frequency selection

**Technical data**

- Single-phase
- TrueRMS
- Overheat protection
- Operation with voltage sources with unstable frequency
- Digital settings control
- Display of current value of voltage
- Display of the current value of the alternating current
- Indication of load connection
- Display of last trip voltage
- Display of last trip current
- Automatic load reconnection after voltage normalization
- Factory reset function
- Voltmeter calibration function
- Connection directly to an socket
- Locking device buttons
- Ability to turn off the load

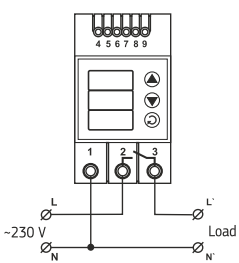
| TECHNICAL SPECIFICATIONS | VA-16Sens |
|---|---|
| Maximum load current | 16A |
| Operating voltage range | 50-400 V |
| Mains frequency | 45-65 Hz |
| Upper voltage limit response time | 0,02 sec |
| lower voltage limit response time | 1(<200V), 0,02(<120V) sec |
| Current limit cut-off time | I>16A - 5 sec; I>25A - 0,2 sec |
| Upper voltage limit | 210-270 (250*) V |
| Lower voltage limit | 120-200 (170*) V |
| Load connection delay time | 5-600(15*) sec |
| Brightness | 1-9(7*) |
| Voltage measurement accuracy, no worse | 1% |
| Current measurement accuracy , no worse | 2% |
| Housing size | 105x57x72 mm |

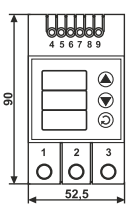
* - factory settings

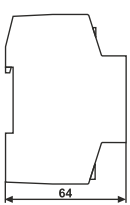
**MP-63A**


**Programmable settings**

- Upper and lower voltage limits
- Upper current limit
- Load connection delay time for voltage
- Load connection delay time for current
- Operating frequency selection




**Technical data**

- Single-phase
- Operation with voltage sources with unstable frequency
- Digital settings control
- Display of current value of voltage
- Display of the current value of the alternating current
- Load power indication
- Automatic load reconnection after voltage normalization
- Automatic switching on when current is exceeded
- Factory reset function
- Voltmeter calibration function
- Modular design for DIN rail mounting (TS-35)

| TECHNICAL SPECIFICATIONS | MP-63A |
|---|---|
| Rated load current | 63 A |
| Maximum load current | 80 A |
| Operating voltage range | 50 - 400 V |
| Current range | 1-63 A |
| Mains frequency | 45-65 Hz |
| Upper voltage limit response time | 0,02 sec |
| lower voltage limit response time | 1 (<200V); 0,02 (<120V) sec |
| Current limit response time at Iset<I<Iset+25% | 10 sec |
| Current limit response time at I>Iset+25% | 0,02 sec |
| Upper voltage limit | 210-270 (250*) V |
| Lower voltage limit | 120-200 (170*) V |
| Upper current limit | 1-63 (50*) A |
| Load connection delay time for voltage | 5-600 (15*) sec |
| Load connection delay time for current | 5-600 (90*) sec |
| Voltage measurement accuracy, no worse | 1% |
| Current measurement accuracy , no worse | 1% |
| Housing size (modules 17.5 mm) | 3 |

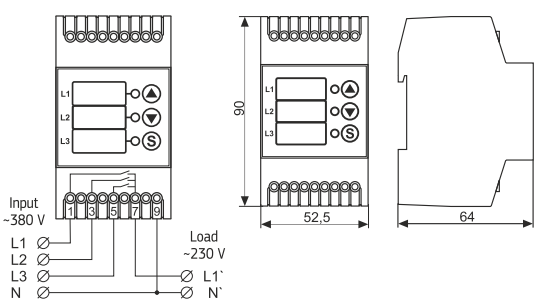
* - factory settings

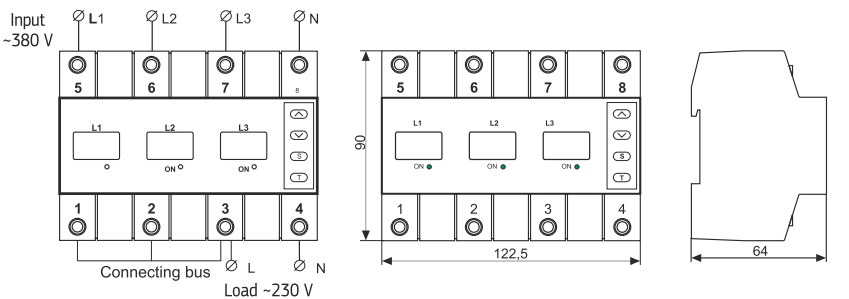
## PS-10A


## PS-40A


## PS-63A


The phase selector switch is designed to supply industrial and domestic single-phase consumer 230V 50Hz from one of the phases of the three-phase network, in order to provide power to particularly critical single-phase equipment from the highest quality phase and protect them from surges or undervoltage.



**Technical data**

- Three-phase
- Digital settings control
- Display of current voltage value for each phase
- Automatic load reconnection after voltage normalization
- Voltmeter calibration function
- Modular design for DIN rail mounting (TS-35)

**Programmable settings**

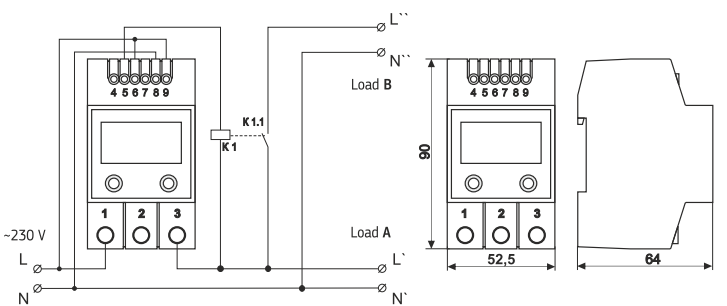
- Upper and lower voltage limits
- Load connection delay time
- Switching delay time for the lower limit
- Delay time to return to the priority phase
- Priority phase

| TECHNICAL SPECIFICATIONS | PS-10A | PS-40A | PS-63A |
|---|---|---|---|
| Rated load current | 10 A | 40 A | 63 A |
| Maximum load current | 16 A | 50 A | 80 A |
| Operating voltage range for each phase | 50-400 V | | |
| Mains frequency | 50 Hz | | |
| Upper voltage limit response time | 0,02 sec, no more | | |
| lower voltage limit response time | 1(<170V) 0,02(<120V) sec, no more | | |
| Output control from contact "sticking" | + | | |
| Upper voltage limit | 210-270 (250*) V | | |
| Lower voltage limit | 120-200 (170*) V | | |
| Priority phase | L1, L2, L3, OFF, (OFF*) | | |
| Load switching delay time | 0-600 (0*) sec | | |
| Switching delay time for lower limit | 1-10 (1*) sec | | |
| Delay time for return to priority phase | 5-120 (5*) sec | | |
| Voltage measurement accuracy, no worse | 1% | | |
| Housing size (modules 17.5 mm) | 3 | 7 | 7 |

* - factory settings

## AP-50


The DigiTOP AP-50A digital current relay is designed to automatically switch off the load when the current in the monitored circuit exceeds the set limit. The device can be used as a priority relay.




**Technical data**

- Single-phase
- Digital settings control
- Display of the current value of the AC current
- Programmable upper limit for current
- Programmable reconnection delay
- Manual start-up after 3 tripping in 10 minutes
- Direct connection (built-in current transducer)
- Modular design for DIN rail mounting (TS-35)

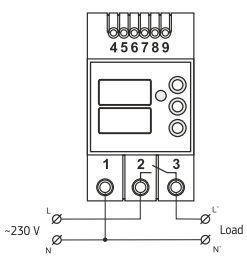
| TECHNICAL SPECIFICATIONS | AP-50 |
|---|---|
| Current range | 1-70 A |
| Upper current limit | 1-50 A (40*) |
| Supply voltage | 50 - 400 V |
| Mains frequency | 50Hz |
| Current limit disconnect time at Iset < I < Iset+25% | 10 sec |
| Current limit disconnect time at I > Iset+25% | 0,02 sec |
| Load reconnecting delay time | 1-20 min (1*) |
| Current measurement accuracy , no worse | 1% |
| Contact type | toggle (NO+NC) |
| Maximum switching current | 6 A |
| Housing size (modules 17.5 mm) | 3 |

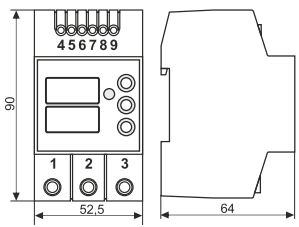
* - factory settings

**OM-7**


**OM-14**


The power limiter is designed to control power consumption in a single-phase electrical network. The device is equipped with a voltage relay function, the parameters of which (upper and lower voltage limits and switch-on delay time) are set by the user. The device is powered from the monitored network.




**Technical data**

- Single-phase
- Digital settings control
- Load power indicator
- AC current/voltage indication
- Programmable voltage limits
- Programmable turn-on delay
- Automatic load reconnection after voltage normalization
- Direct connection (built-in current transducer)
- Modular design for DIN rail mounting (TS-35)

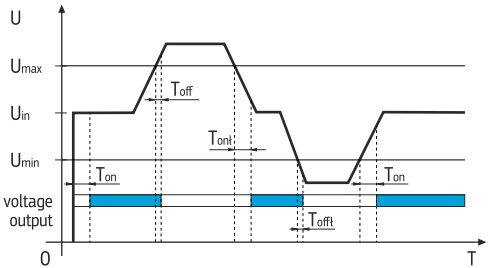
**Programmable settings**

- Upper power limit
- Upper and lower voltage limits
- Load disconnection delay time for current
- Load connection delay time
- Number of restart cycles

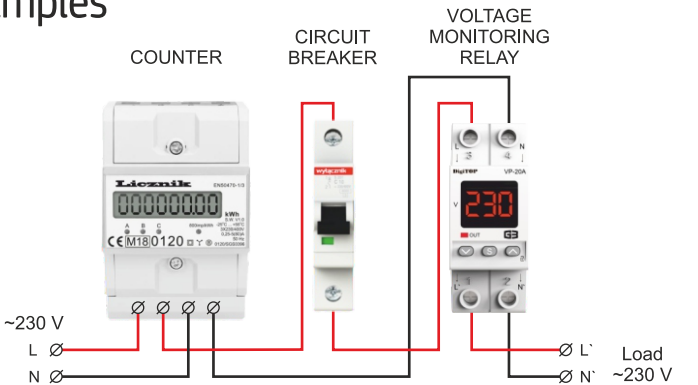
| TECHNICAL SPECIFICATIONS | OM-7 | OM-14 |
|---|---|---|
| Rated load current | 32 A | 63 A |
| Maximum load current | 40 A | 80 A |
| Operating voltage range | 50-400 V | |
| Mains frequency | 45-65 Hz | 50 Hz |
| Controlled power range | 0,1-7 kW | 0,1-14 kW |
| Upper voltage limit | 210-270 (250*) V | |
| Lower voltage limit | 120-200 (170*) V | |
| Load connection delay time | 5-600 (15*) sec | |
| Load disconnection delay time for current | 5-300 (5*) sec | |
| Number of restart cycles | 0-20 (0*) | |
| Upper voltage limit response time | 0,02 sec | |
| lower voltage limit response time | 1 (<200V) 0,02 (<120V) sec | |
| Housing size (17.5 mm modules) | 3 | |

* - factory settings

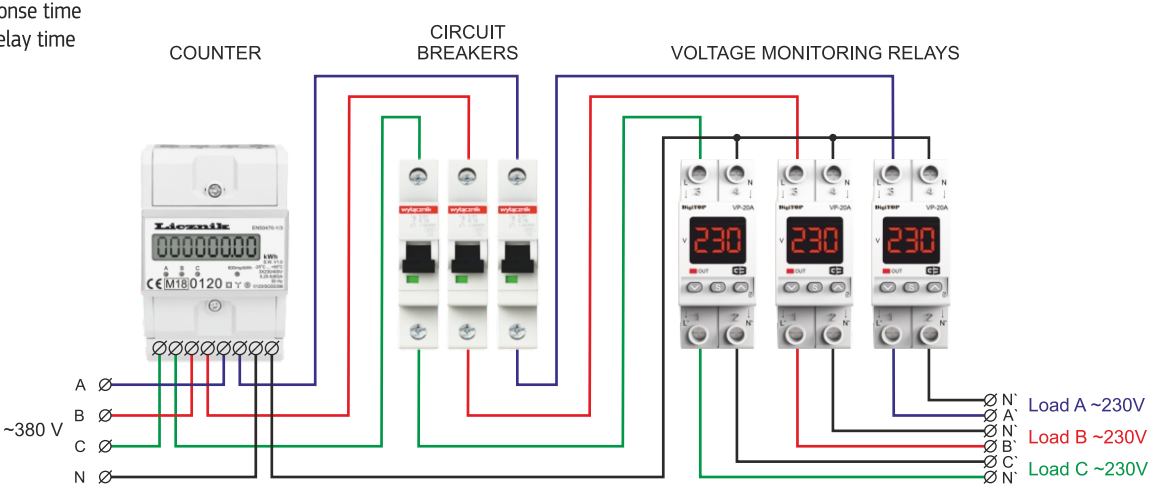
# Mode of operation / Connection examples




Umax - upper voltage limit
Umin - lower voltage limit
Uin - voltage at the input
Toff - voltage limit response time
Ton - load connection delay time

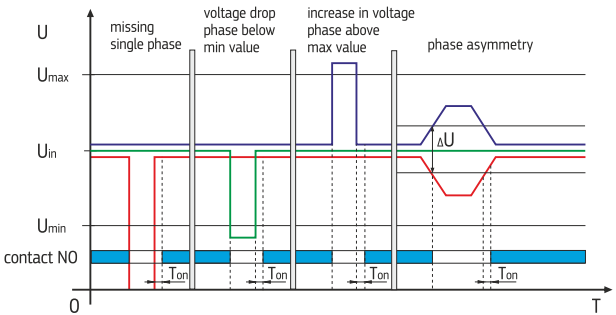



Single-phase network protection



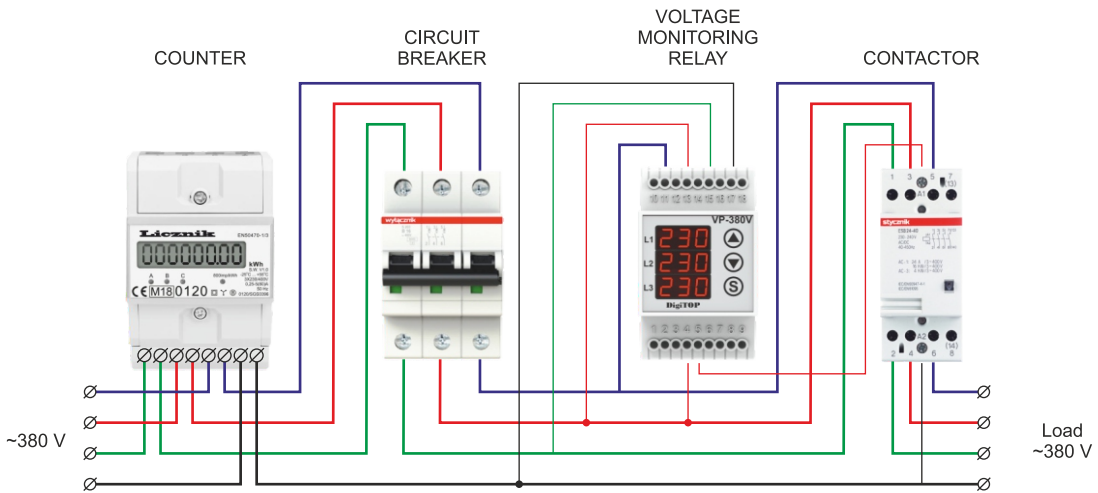

3-phase network protection with 1-phase loads

# Mode of operation / Connection examples




Umax - upper voltage limit
Umin - lower voltage limit
Uin - input voltage
ΔU - phase asymmetry
Ton - load connection delay time

phase L1
phase L1
phase L1




Protection of 3-phase loads

## TS-1F

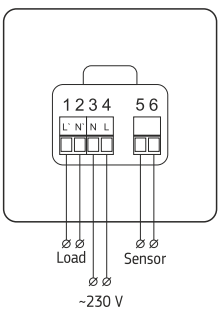

The TS-1F single-channel electronic temperature controller is designed to maintain the user-set temperature of electric floor heating with the display of values on the built-in digital LED indicator.

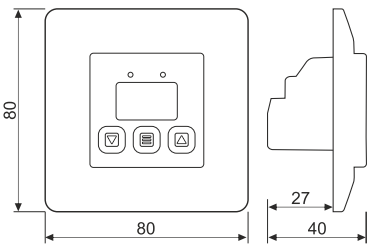
### Technical specifications

- Single channel
- Display of controlled temperature
- Digital settings control
- Internal overheating control (with temperature indication)
- Locking device buttons
- Adjustment of indicator brightness
- Ability to turn off the load

### Programmable settings

- Maintainable temperature
- Brightness of the digital indicator
- Locking device buttons




| TECHNICAL SPECIFICATIONS | TS-1F |
|---|---|
| Range of measured temperatures | -55...+125 °C |
| Adjustable temperature range | +5...+40 °C |
| Maximum load current | 16 A |
| Sensor type | external, digital |
| Discreteness of indication | 0,1 °C |
| Accuracy of temperature measurement, max | 0,5 °C |
| Temperature hysteresis | 2 °C |
| Sensor length | 3 m |
| Brightness of the digital indicator | 1-9 |
| Supply voltage | ~230 V / 50 Hz |

## TK-4Pro


The TK-4Pro single-channel electronic temperature controller is designed to maintain the user-set temperature of an object with the display of values on the built-in digital LED indicator.

**Universal thermoregulator with five operating programs**

Program 1 - Universal program for operation in the full temperature range with heating/cooling modes

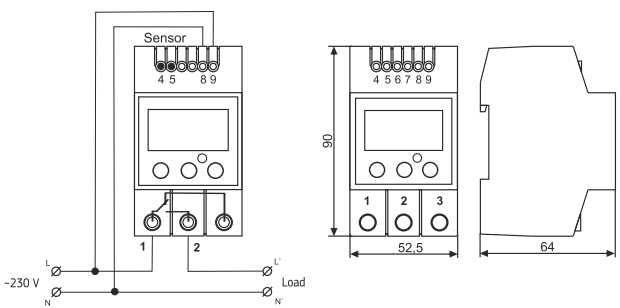
Program 2 - operation in the plus temperature range in heating mode

Program 3 - program for floor heating control

Program 4 - program for de-icing system

Program 5 - program for interval operation without temperature sensor

| Program | Temperature supported, °C | Hysteresis, °C | Operation mode |
|---|---|---|---|
| Program 1 | -55,9...+125,9 | 0,1...39,9 | HEATING/ COOLING |
| Program 2 | 0...+125 | 1...20 | HEATING |
| Program 3 | +5...+40 | 2 | HEATING |
| Program 4 | 0...+10 upper limit | -20...-1 lower limit | HEATING |
| Program 5 | 10...90 - load on time in percent | | |




## TECHNICAL SPECIFICATIONS — TK-4Pro

| | |
|---|---|
| Range of measured temperatures | –55... +125 °C |
| Number of measurement channels | 1 |
| Maximum load current | 25 A |
| Discreteness of temperature indication | 0,1°C (od -9,9 do +99°C)<br>1°C (in the rest) |
| Sensor type | external, digital |
| Sensor length | 1,5 m. |
| Contact type | toggle (NO+NC) |
| Temperature measurement accuracy, max | 0,5 °C |
| Power supply voltage | ~230 V, 50 Hz |
| Power consumption, no more | 3 W |
| Housing size (17.5 mm modules) | 3 |

# TK SERIES

Temperature regulators (thermoregulators) are designed to maintain the user-set temperature of an object with the display of the value on a built-in digital LED indicator. There are one-, two- and three-channel thermoregulators. They can be used to regulate the temperature in the room and to control technological processes.

## TK-3


Universal thermoregulator operating in heating or cooling mode, one measuring channel

## TK-4


Universal thermoregulator operating in heating or cooling mode, one measuring channel

| TECHNICAL SPECIFICATIONS | TK-3 | TK-4 |
|---|---|---|
| Number of measurement channels | 1 | 1 |
| Range of measured temperatures | –55... +125°C | –55... +125°C |
| Adjustable temperature range | –55... +125°C | –55... +125°C |
| Discreteness of indication | 0,1°C (–9,9...+99°C), 1°C | 0,1°C (–9,9...+99°C), 1°C |
| Temperature measurement accuracy, no worse | 0,5 °C | 0,5 °C |
| Temperature hysteresis (Δt) | 0,1...39,9°C | 0,1...39,9°C |
| Operation mode | Heating or Cooling | Heating or Cooling |
| Contact type | 1 toggle (NO+NC), 6A | 1 toggle (NO+NC), 16A |
| Supply voltage | ~230V, 50Hz | ~230V, 50Hz |
| Power consumption | max 3 W | max 3 W |
| Housing size (17.5 mm modules) | 2 | 3 |

## TK-4K


The thermoregulator operates in the following modes heating or cooling, in the positive temperature range up to 1000°C, one measuring channel

| TK-4K |
|---|
| 1 |
| 0... +999°C |
| 0... +999°C |
| 1°C |
| 3 °C |
| 1...99°C |
| Heating or Cooling |
| 1 toggle (NO+NC), 16A |
| ~230V, 50Hz |
| max 3 W |
| 3 |

## TK-5


Thermoregulator for control of electric heating systems with control of the temperature of the heat carrier. Two channels of control and measurement.

| TK-5 |
|---|
| 2 |
| 0°C...+125°C, krok: 1°C |
| 0°C...+85°C, krok: 1°C |
| 1 °C |
| 0,5°C |
| 1...20°C |
| Heating |
| 2 x ~230V / 6A |
| ~230V, 50Hz |
| max 3 W |
| 3 |

## TK-6


The thermoregulator operates in heating or cooling mode with two independent control and measurement channels.

| TK-6 |
|---|
| 2 |
| –55... +125°C |
| –55... +125°C, krok: 0,1°C |
| 0,1°C (–9,9...+99°C), 1°C |
| 0,5 °C |
| 0,1...39,9°C |
| Heating or Cooling |
| 2 toggle (NO+NC), 6A |
| ~230V, 50Hz |
| max 4 W |
| 3 |

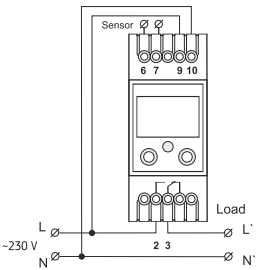
## TK-8


The thermoregulator operates in heating or cooling mode with three independent control and measurement channels.

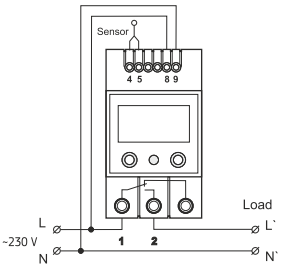
| TK-8 |
|---|
| 3 |
| –55... +125°C |
| +55... +125°C, krok: 0,1°C |
| 0,1°C (–9,9...+99°C), 1°C |
| 0,5 °C |
| 0,1...39,9°C |
| Heating or Cooling |
| 3 toggle (NO+NC), 6A |
| ~230V, 50Hz |
| max 5 W |
| 3 |

# Wiring diagrams / Operation mode / Connection examples

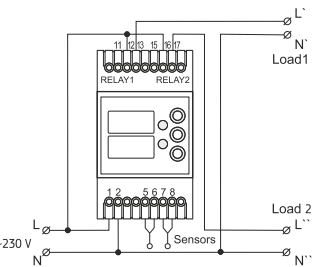
**TK-3**



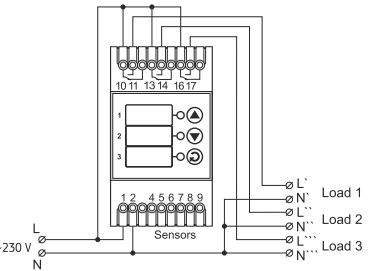

**TK-4** **TK-4K**



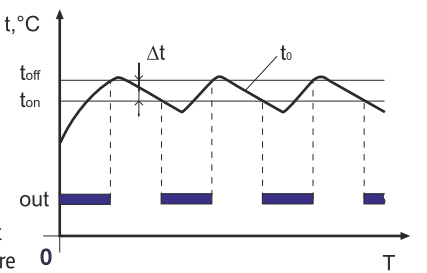

**TK-6**




**TK-8**

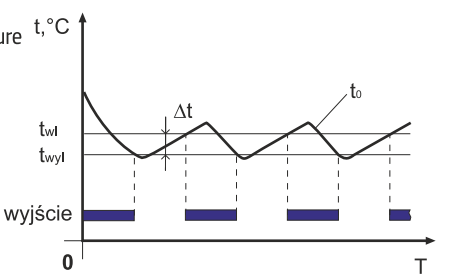


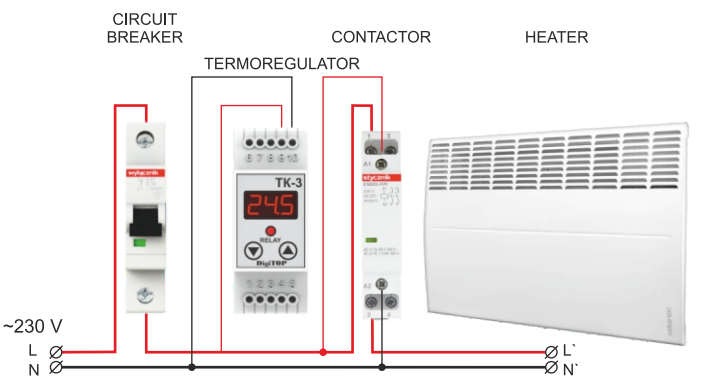

## Heating mode



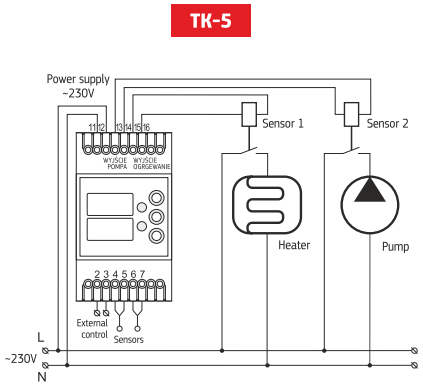

to, °C - temperature of the object
toff, °C - switching off temperature of the thermoregulator
ton, °C - switching on temperature of the thermoregulator
Δt, °C - hysteresis zone
T - time

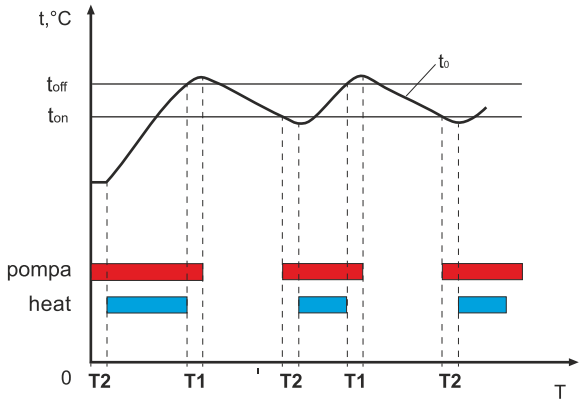
## Cooling mode



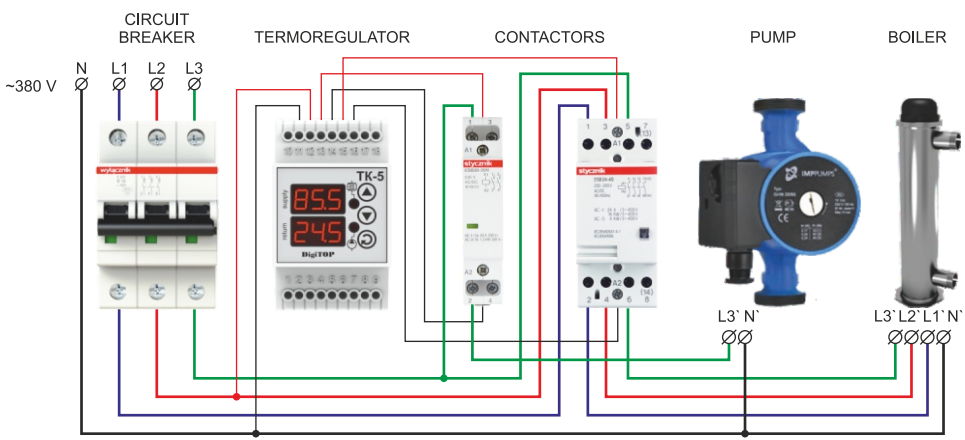




Example of heating control with the use of TK-3 thermoregulator




to, °C - temperature of the object
toff, °C - heating switching off temperature
ton, °C - heating switching on temperature
T1 - pump switch-off delay time
T2 - delay time
switching on of heating




Example of controlling a three-phase electric boiler and a single-phase pump using a TK-5 thermoregulator

**PB-2C**


**PB-2H**

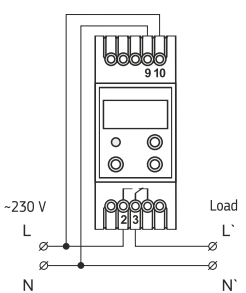

**PB-6C**

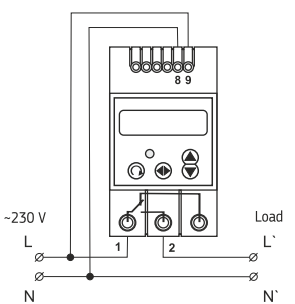

**PB-6H**


Programmable time relays are designed to turn on or off various consumers at user-specified points in time.

**Technical data**

- Daily or weekly cycle
- Real time clock
- Digital settings control
- Modular design for DIN rail mounting (TS-35)



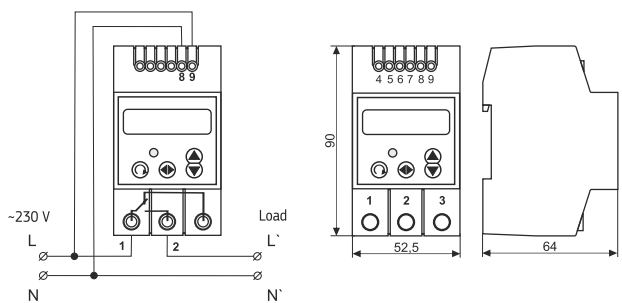

| TECHNICAL SPECIFICATIONS | PB-2C | PB-2H | PB-6C | PB-6H |
|---|---|---|---|---|
| Built-in clock | + | + | + | + |
| Work cycle | day | week | day | week |
| Number of time marks | 99/day | 16/day | 99/day | 16/day |
| Rated load current | 6A | 6A | 16A | 16A |
| Contact type | | toggle (NO+NC) | | |
| Supply voltage | | ~230V, 50Hz | | |
| Power consumption | | max 3 W | | |
| Housing size (17.5 mm modules) | 2 | 2 | 3 | 3 |

## T-2


Timers turn the load on or off at specific intervals, without reference to astronomical (real) time.

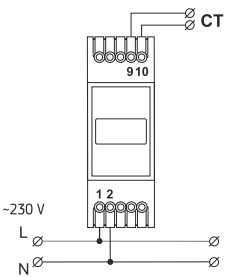
**Technical data**

- Four working programs:
  - countdown
  - countdown with a delay for switching on
  - cyclic countdown of time intervals
  - cyclic countdown of time intervals a certain number of times
- Digital settings control
- Modular design for DIN rail mounting (TS-35)

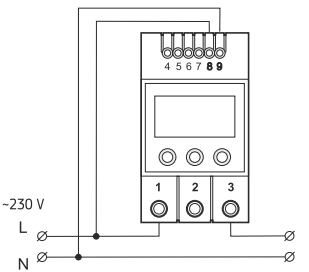



| TECHNICAL SPECIFICATIONS | T-2 |
|---|---|
| Rated load current | 16A |
| Number of indicator digits | 6 |
| Time interval T1 | 00h 00m 01s...99h 59m 59s |
| Time interval T2 | 00h 00m 01s...99h 59m 59s |
| Contact type | toggle (NO+NC) |
| Supply voltage | ~230(±10%)V, 50Hz |
| Power consumption | max 3 W |
| Housing size (modules 17.5 mm) | 3 |

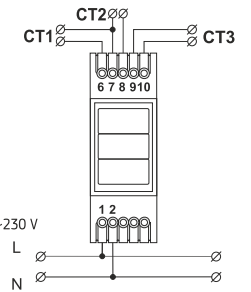
## AM-1


## AM-2


## AM-3

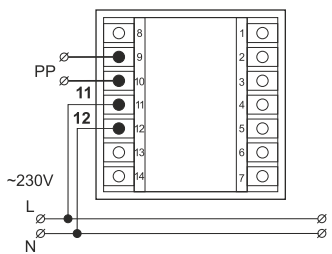



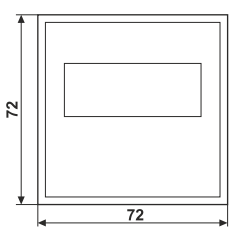

**Technical data**

- Display of current value AC current
- Integrated (AM-2) or external current transformer (AM-1, AM-3)
- Modular design for DIN rail mounting (TS-35)

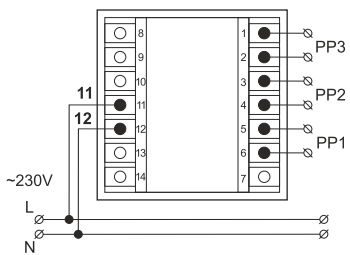
| TECHNICAL SPECIFICATIONS | AM-1 | AM-2 | AM-3 |
|---|---|---|---|
| Measured current | | 1-63A | |
| Number of measured phases | 1 | 1 | 3 |
| Supply voltage | | ~230V, 50 Hz | |
| Current transformer | External | Integrated | External |
| Measurement accuracy | | max 1% | |
| Protection degree | | IP20 | |
| Housing size (modules 17.5 mm) | 2 | 3 | 2 |

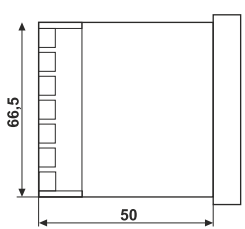
**AM-1M**


**AM-3M**

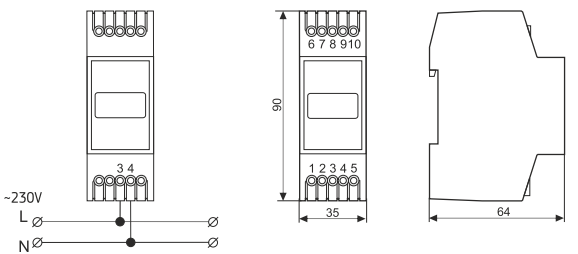




**Technical data**

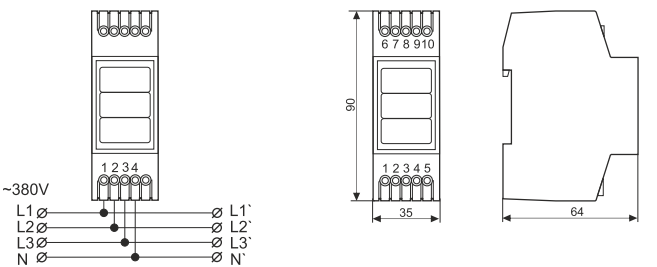
- Single-phase / three-phase
- Display of current value of AC current
- External current transformers included

| TECHNICAL SPECIFICATIONS | AM-1M | AM-3M |
|---|---|---|
| Measured current | 1-63A | |
| Number of measured phases | 1 | 3 |
| Supply voltage | ~230V, 50 Hz | |
| Current transformer | External | |
| Measurement error | max 1% | |
| Degree of protection | IP20 | |
| Housing cutout | 68x68 mm | |

## BM-1


## BM-3

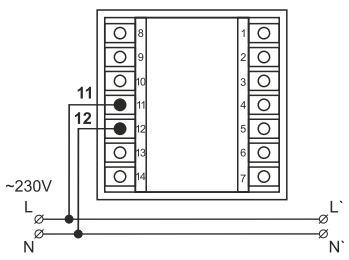



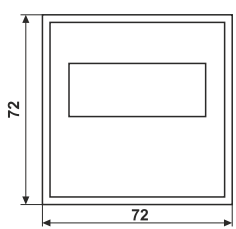

**Technical data**

- Display of current voltage value
- Modular design for DIN rail mounting (TS-35)

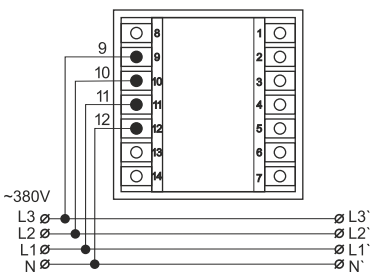
| TECHNICAL SPECIFICATIONS | BM-1 | BM-3 |
|---|---|---|
| Number of phases measured | 1 | 3 |
| Number of voltage indicators | 1 | 3 |
| Supply voltage | ~50-400 V, 50 Hz | |
| Limits of phase voltage measurement | ~50-400 | |
| Measurement accuracy | max 1% | |
| Protection degree | IP20 | |
| Housing size (modules 17.5 mm) | 2 | |

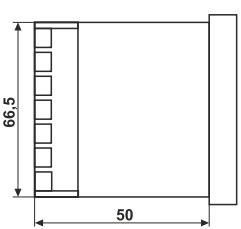
**BM-1M**


**BM-3M**


**Technical data**

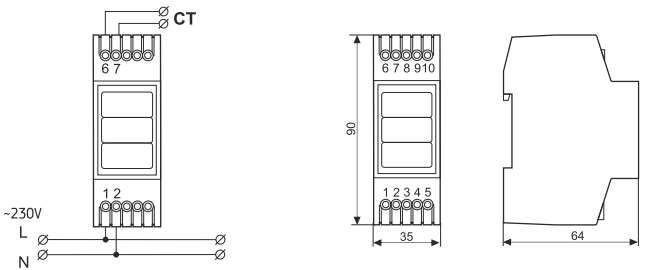
- Single phase / three phase
- Display of the current voltage value

## TECHNICAL SPECIFICATIONS

| | | |
|---|---|---|
| Number of phases measured | 1 | 3 |
| Number of voltage indicators | 1 | 3 |
| Supply voltage | ~50-400 V, 50 Hz | |
| Limits of phase voltage measurement | ~50-400 | |
| Measurement accuracy | max 1% | |
| Protection degree | IP20 | |
| Housing size (modules 17.5 mm) | 68x68 mm | |

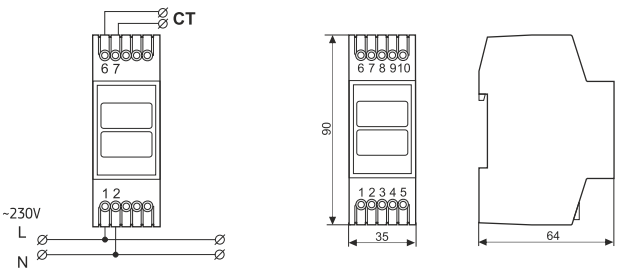
## VAFM-1


Ammeter-voltmeter
-frequency meter




## AVM-1


Ammeter-voltmeter




**Technical data**

- Single-phase
- Display of current value of voltage
- Display of current value of alternating current
- Display of current value of frequency
  AC current (VAFM-1 only)
- External current transformer included
- Modular design for DIN rail mounting (TS-35)

| TECHNICAL SPECIFICATIONS | VAFM-1 | AVM-1 |
|---|---|---|
| Measured voltage | 50-400 | 50-400 |
| Measured current | 1-63 | 1-63 |
| Measured frequency | 30-75 | - |
| Measurement accuracy | 1 | 1 |
| Power consumption, no more | 3 | 3 |
| Degree of protection | IP20 | IP20 |
| Housing size (modules 17.5 mm) | 2 | 2 |

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة

Form QAT_10-M05, version 00, effective since March 25th, 2020

# Certificate of Compliance

No. 0D210316.E0N32

Certificate's Holder: Energohit LLC
*Legal address:* of. 120, Vikentiya Hv
Ukraine, 04080
*Production address:* Sim'i Shovkopl
Ukraine, 04209

Certification ECM Mark: Type Approved

Product: VOLTAGE MONITORING RELA
Brand: DigiTOP
Model(s): *(see the following annex)*

Verification to: Standard:
EN 60255-27:2014, EN 60255-2

related to CE Directive(s):
2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic Com

**Remark:** This document has been issued on a voluntary basis and upon request of
our opinion that the technical documentation received from the manufacturer
requirements of the ECM Certification Mark. The conformity mark above can be
accordingly to the ECM regulation about its release and its use.

Additional information and clarification about the Marking:
The manufacturer is responsible for the CE Marking process,
refer to a Notified Body. This document has been issued on the
an ECM Voluntary Mark for the certification of products. RGE
at: www.entecerma.it

**Issuance date: 16 March 2021**
**Expiry date: 15 March 2026**

Reviewer
Technical expert
Amanda Payne

**Ente Certificazione Macchine Srl**
Via Ca' Bella, 243 – Loc. Castello di Serravalle – 40053 Valsamoggia
☎ +39 051 6705141 🖷 +39 051 6705156 ✉ info@entecerma.it 🌍 www

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة

Form QAT_10-M05, version 00, effective since March 25th, 2020

# Certificate of Compliance

No. 0D210316.E0N30

Certificate's Holder: Energohit LLC
*Legal address:* of. 120, Vikentiya Hv
Ukraine, 04080
*Production address:* Sim'i Shovkopl
Ukraine, 04209

Certification ECM Mark: Type Approved

Product: TEMPERATURE CONTROLLERS
Brand: DigiTOP
Model(s): TS-1P, TS-1F, TS-1Twin, TS-2, TP-1,
TP-2Sens, TK-4Pro, TK-3Pro, TK-3,
TK-4T, TK-4K, TK-5K, TK-5, TK-5B, TK
TK-10, TK-11

Verification to: Standard:
EN 60730-1:2011, EN 60730-2-9

related to CE Directive(s):
2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic Com

**Remark:** This document has been issued on a voluntary basis and upon request of
our opinion that the technical documentation received from the manufacturer
requirements of the ECM Certification Mark. The conformity mark above can be
accordingly to the ECM regulation about its release and its use.

Additional information and clarification about the Marking:
The manufacturer is responsible for the CE Marking process,
refer to a Notified Body. This document has been issued on the
an ECM Voluntary Mark for the certification of products. RGE

**Issuance date: 16 March 2021**
**Expiry date: 15 March 2026**

Reviewer
Technical expert
Amanda Payne

**Ente Certificazione Macchine Srl**
Via Ca' Bella, 243 – Loc. Castello di Serravalle – 40053 Valsamoggia
☎ +39 051 6705141 🖷 +39 051 6705156 ✉ info@entecerma.it 🌍 www

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة

Form QAT_10-M05, version 00, effective since March 25th, 2020

# Certificate of Compliance

No. 0D210316.E0N31

Certificate's Holder: Energohit LLC
*Legal address:* of. 120, Vikentiya Hv
Ukraine, 04080
*Production address:* Sim'i Shovkopl
Ukraine, 04209

Certification ECM Mark: Type Approved

Product: TIMERS AND TIME RELAYS
Brand: DigiTOP
Model(s): PB-1C, PB-1Sens, PB-2C, PB-2H,

Verification to: Standard:
EN 60730-1:2011, EN 60730-2-7

related to CE Directive(s):
2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic Com

**Remark:** This document has been issued on a voluntary basis and upon request of
our opinion that the technical documentation received from the manufacturer
requirements of the ECM Certification Mark. The conformity mark above can be
accordingly to the ECM regulation about its release and its use.

Additional information and clarification about the Marking:
The manufacturer is responsible for the CE Marking process,
refer to a Notified Body. This document has been issued on the
an ECM Voluntary Mark for the certification of products. RGE

**Issuance date: 16 March 2021**
**Expiry date: 15 March 2026**

Reviewer
Technical expert
Amanda Payne

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Via Ca' Bella, 243 – Loc. Castello di Serravalle – 40053 Valsamoggia
☎ +39 051 6705141 🖷 +39 051 6705156 ✉ info@entecerma.it 🌍 www

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة

Form QAT_10-M05, version 00, effective since March 25th, 2020

# Certificate of Compliance

No. 0D210316.E0N33

Certificate's Holder: Energohit LLC
*Legal address:* of. 120, Vikentiya Hvoiku 21, Kyiv,
Ukraine, 04080
*Production address:* Sim'i Shovkopliasiv 7, Kyiv,
Ukraine, 04209

Certification ECM Mark: Type Approved

Product: VOLTMETERS AND AMMETERS
Brand: DigiTOP
Model(s): AM-2, AM-1, AM-3, AM-1M, AM-3M, AVM-1,
VAFM-1, VAFM-1M, BM-1, BM-1M, BM-3, BM-3M

Verification to: Standard:
EN 61010-1:2010, EN 61326-1:2013

related to CE Directive(s):
2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic Compatibility)

**Remark:** This document has been issued on a voluntary basis and upon request of the manufacturer. It is
our opinion that the technical documentation received from the manufacturer is satisfactory for the
requirements of the ECM Certification Mark. The conformity mark above can be affixed on the products
accordingly to the ECM regulation about its release and its use.

Additional information and clarification about the Marking:
The manufacturer is responsible for the CE Marking process, and if necessary, must
refer to a Notified Body. This document has been issued on the basis of the regulation
on ECM Voluntary Mark for the certification of products, RGEI_ECM rev.3 available
at: www.ecmcerma.it

**Issuance date: 16 March 2021**
**Expiry date: 15 March 2026**

Reviewer
Technical expert
Amanda Payne

Approver
ECM Service Director
Luca Bedonni

**Ente Certificazione Macchine Srl**
Via Ca' Bella, 243 – Loc. Castello di Serravalle – 40053 Valsamoggia (BO) - ITALY
☎ +39 051 6705141 🖷 +39 051 6705156 ✉ info@entecerma.it 🌍 www.entecerma.it

## Declaration of Conformity

No: DoC.001.2022 Dated «10» January 2022

The following products have been tested with the listed standards and found in compliance with European Parliament and Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU. Assessment of compliance of the product was based on the following standards:

**EN 60255-27:2014, EN 60255-26:2013**

**Product:** VOLTAGE MONITORING RELAYS

**Type/Model:** VP-10AS, VP-16AS, VP-10Sens, VP-16Sens, VA-16Sens, VP-25A, VP-32A, VP-40A, VP-50A, VP-63A, VP-16A G3, VP-32A G3, VP-40A G3, VP-50A G3, VP-63A G3, VA-32A G3, VA-50A, VA-63A, VA-32A G3, VA-40A G3, VA-50A G3, VA-63A G3, 380V, VP-3F10A, VP-3F40A, VP-3F63A, AP-50A, OM-7, OM-40A, PS-63A

**Manufacturer name:** ENERGOHIT LLC

**Trade mark** DigiTOP

**Legal address:** of. 120, Vkentiya Hvoiku 21, Kyiv, Ukraine, 04080

**Production address:** Sim'i Shovkopliasiv 7, Kyiv, Ukraine, 04209

The statement is based on a single evaluation of one sample of above products. The statement is based on design and type of product, which is brought into circulation by us, and risk assessment of probably use.

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. Technical report and documentation are at the authorized representative disposal.

Responsibility for product safety and compliance with the requirements of the European Parliament and of the Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU and harmonized standards are issued under the sole responsibility of the manufacturer.

CE

The declaration is valid until the introduction of modifications of the technical parameters of the products and production process. In case of alteration in product characteristics, not agreed by us, this declaration will lose its validity. Other relevant Directives have to be observed.

**Test reports:** № 20-0310-03 dated 30 November 2020; № 20-0310-04 dated 30 November 2020; № 20-0310-05 dated 30 November 2020; № 20-0310-06 dated 30 November 2020

Signed for and on behalf of the Authorized representative by:
**Sp. z o.o. DIGITOP ELECTRIC**
Poland, 30-105 Krakow,
Świętokrzyska str. 12/323
info@digitopelectric.pl
Chairman of the Board,
Signature / Stamp

Signed for and on behalf of the Manufacturer by:
**ENERGOHIT LLC**
of. 120, Vkentiya Hvoiku 21, Kyiv, Ukraine, 04080
Director,
Oleg Savin
Signature / Stamp

DigiTOP electric Sp. z o.o.
ul. Świętokrzyska 12/323, 30-015 Kraków
tel. +48 794-267-868, +48 794-268-047
NIP: 6772469881 REGON: 520227451
digitopelectric.pl

## Declaration of Conformity

No: DoC.001.2022 Dated «10» January 2022

The following products have been tested with the listed standards and found in compliance with European Parliament and Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU. Assessment of compliance of the product was based on the following standards:

**EN 60730-1:2011; EN 60730-2-9:2010**

**Product:** TEMPERATURE CONTROLLERS

**Type/Model:** TS-1P, TS-1F, TS-1Twin, TS-2, TP-1, TP-1Sens, TP-4Pro, TK-3Pro, TK-3, TK-4, TK-4H, TK-4T, TK-4K, TK-5B, TK-6, TK-7, TK-8, TK-10, TK-11

**Manufacturer name:** ENERGOHIT LLC

**Trade mark** DigiTOP

**Legal address:** of. 120, Vkentiya Hvoiku 21, Kyiv, Ukraine, 04080

**Production address:** Sim'i Shovkopliasiv 7, Kyiv, Ukraine, 04209

The statement is based on a single evaluation of one sample of above products. The statement is based on design and type of product, which is brought into circulation by us, and risk assessment of probably use.

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Responsibility for product safety and compliance with the requirements of the European Parliament and of the Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU and harmonized standards are issued under the sole responsibility of the manufacturer.

CE

The declaration is valid until the introduction of modifications of the technical parameters of the products and production process. In case of alteration in product characteristics, not agreed by us, this declaration will lose its validity. Other relevant Directives have to be observed.

**Test reports:** № 20-0310-07 dated 30 November 2020; № 20-0310-08 dated 30 November 2020; № 20-0310-09 dated 30 November 2020; № 20-0310-10 dated 30 November 2020

Signed for and on behalf of the Authorized representative by:
**Sp. z o.o. DIGITOP ELECTRIC**
Poland, 30-105 Krakow,
Świętokrzyska str. 12/323
info@digitopelectric.pl
Chairman of the Board,
Oleg Savin
Signature / Stamp

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## Declaration of Conformity

No: DoC.001.2022 Dated «10» January 2022

The following products have been tested with the listed standards and found in compliance with European Parliament and Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU. Assessment of compliance of the product was based on the following standards:

**EN 60730-1:2011; EN 60730-2-7:2010**

**Product:** TIMERS AND TIME RELAYS

**Type/Model:** PB-1C, PB-1Sens, PB-2C, PB-2H, PB-6C, PB-6H, T

**Manufacturer name:** ENERGOHIT LLC

**Trade mark** DigiTOP

**Legal address:** of. 120, Vkentiya Hvoiku 21, Kyiv, Ukraine, 04080

**Production address:** Sim'i Shovkopliasiv 7, Kyiv, Ukraine, 04209

The statement is based on a single evaluation of one sample of above mentioned products. The statement is based on design and type of product, which is brought into circulation by us, and risk assessment of probably use.

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. Technical report and documentation are at the authorized representative disposal.

Responsibility for product safety and compliance with the requirements of the Directive: European Parliament and of the Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU and harmonized standards are issued under the sole responsibility of the manufacturer.

CE

The declaration is valid until the introduction of modifications of the technical parameters of the products and production process. In case of alteration in product characteristics, not agreed by us, this declaration will lose its validity. Other relevant Directives have to be observed.

**Test reports:** № 20-0310-01 dated 30 November 2020; № 20-0310-02 dated 30 November 2020

Signed for and on behalf of the Authorized representative by:
**Sp. z o.o. DIGITOP ELECTRIC**
Poland, 30-105 Krakow,
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Chairman of the Board,
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## Declaration of Conformity

No: DoC.001.2022 Dated «10» January 2022

The following products have been tested with the listed standards and found in compliance with European Parliament and Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU. Assessment of compliance of the product was based on the following standards:

**EN 61010-1:2010; EN 61326-1:2013**

**Product:** VOLTMETERS AND AMMETERS

**Type/Model:** AM-2, AM-1, AM-3, AM-1M, AM-3M, AVM-1, VAFM-1, VAFM-1M, BM-1, BM-1M, BM-3, BM-3M

**Manufacturer name:** ENERGOHIT LLC

**Trade mark** DigiTOP

**Legal address:** of. 120, Vkentiya Hvoiku 21, Kyiv, Ukraine, 04080

**Production address:** Sim'i Shovkopliasiv 7, Kyiv, Ukraine, 04209

The statement is based on a single evaluation of one sample of above mentioned products. The statement is based on design and type of product, which is brought into circulation by us, and risk assessment of probably use.

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Responsibility for product safety and compliance with the requirements of the Directive: European Parliament and of the Council of the European Union Low Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU and harmonized standards are issued under the sole responsibility of the manufacturer.

CE

The declaration is valid until the introduction of modifications of the technical parameters of the products and production process. In case of alteration in product characteristics, not agreed by us, this declaration will lose its validity. Other relevant Directives have to be observed.

**Test reports:** № 20-0310-13 dated 30 November 2020; № 20-0310-12 dated 30 November 2020; № 20-0310-11 dated 30 November 2020.

Signed for and on behalf of the Authorized representative by:
**Sp. z o.o. DIGITOP ELECTRIC**
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