RDVP-3   3 PHASE DIGITAL VOLTAGE PROTECTION RELAY
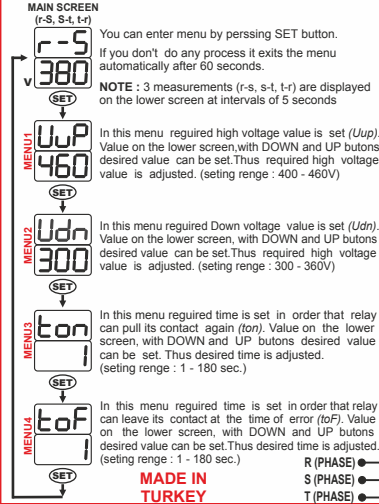
bestel

DIGITAL, 3 PHASE VOLTAGE PROTECTION RELAY
(with phase seq. control) (without NEUTRAL)

TECHNICAL DATA:

Supply Voltage	: 380V-50Hz AC
Relay Contact	: 250V - 7A AC (NO+NC)
Under Voltage Range	: 300 - 360V (adjustable)
Over Voltage Range	: 400 - 460V (adjustable)
Relay Off Delay Time	: 1 - 180 sec. (adjustable)
Relay On Delay Time	: 1 - 180 sec. (adjustable)
Screen	: 2x3 digit RED display
Sensitivity	: ±%1
Operation Temperature	: -5.......+50 °C
Dimensions (mm)	: 30x90x60
Net Weight	: 90 gr.

RDVP3

PROGRAMING THE DEVICE:

MAIN SCREEN
(r-S, S-t, t-r)

r -S
v 380
SET

You can enter menu by perssing SET button.
If you don't do any process it exits the menu automatically after 60 seconds.

NOTE : 3 measurements (r-s, s-t, t-r) are displayed on the lower screen at intervals of 5 seconds

MENU1
UuP
460
SET

In this menu required high voltage value is set *(Uup)*. Value on the lower screen,with DOWN and UP butons desired value can be set.Thus required high voltage value is adjusted. (seting renge : 400 - 460V)

MENU2
Udn
300
SET

In this menu required Down voltage value is set *(Udn)*. Value on the lower screen, with DOWN and UP butons desired value can be set.Thus required high voltage value is adjusted. (seting renge : 300 - 360V)

MENU3
ton
1
SET

In this menu required time is set in order that relay can pull its contact again *(ton)*. Value on the lower screen, with DOWN and UP butons desired value can be set. Thus desired time is adjusted. (seting renge : 1 - 180 sec.)

MENU4
toF
1
SET

In this menu required time is set in order that relay can leave its contact at the time of error *(toF)*. Value on the lower screen, with DOWN and UP butons desired value can be set.Thus desired time is adjusted. (seting renge : 1 - 180 sec.)

MADE IN TURKEY

CONNECTION DIAGRAM:

Connection Terminals
R : R Phase Input
S : S Phase Input
T : T Phase Input
1 : Normally Closed Contact
2 : Common Contact
3 : Normally Open Contact

LOAD
K
R (PHASE)
S (PHASE)
T (PHASE)
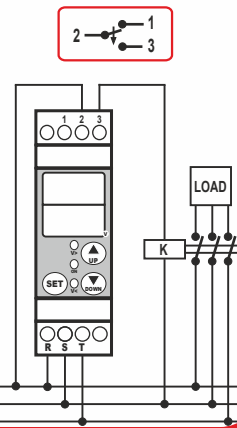
RDVP-1   1 PHASE DIGITAL VOLTAGE PROTECTION RELAY

bestel

DIGITAL, 1 PHASE OVER-UNDER
VOLTAGE PROTECTION RELAY

TECHNICAL DATA:

Supply Voltage	: 220V-50Hz AC
Relay Contact	: 250V - 7A AC (NO+NC)
Under Voltage Range	: 150 - 210V (adjustable)
Over Voltage Range	: 230 - 270V (adjustable)
Relay Off Delay Time	: 1 - 180 sec. (adjustable)
Relay On Delay Time	: 1 - 180 sec. (adjustable)
Screen	: 2x3 digit RED display
Sensitivity	: ±%1
Operation Temperature	: -5.......+50 °C
Dimensions (mm)	: 30x90x60
Net Weight	: 90 gr.

RDVP1

PROGRAMING THE DEVICE:

MAIN SCREEN

- L -
v 220
SET

You can enter menu by perssing SET button.
If you don't do any process it exits the menu automatically after 60 seconds.

MENU1
UuP
270
SET

In this menu required high voltage value is set *(Uup)*. Value on the lower screen,with DOWN and UP butons desired value can be set.Thus required high voltage value is adjusted. (seting renge : 230 - 270V)

MENU2
Udn
150
SET

In this menu required Down voltage value is set *(Udn)*. Value on the lower screen, with DOWN and UP butons desired value can be set.Thus required high voltage value is adjusted. (seting renge : 150 - 210V)

MENU3
ton
1
SET

In this menu required time is set in order that relay can pull its contact again *(ton)*. Value on the lower screen, with DOWN and UP butons desired value can be set. Thus desired time is adjusted. (seting renge : 1 - 180 sec.)

MENU4
toF
1
SET

In this menu required time is set in order that relay can leave its contact at the time of error *(toF)*. Value on the lower screen, with DOWN and UP butons desired value can be set.Thus desired time is adjusted. (seting renge : 1 - 180 sec.)

MADE IN TURKEY

CONNECTION DIAGRAM:

Connection Terminals
L : Phase Input
N : Neutral Input
1 : Normally Closed Contact
2 : Common Contact
3 : Normally Open Contact

LOAD
K
L (PHASE)
N (NOTR)

bestel

bestel

RVP-05F   3 PHASE, VOLTAGE PROTECTION RELAY

bestel

OVER-UNDER VOLTAGE CONTROL RELAY

TECHNICAL DATA:

Supply Voltage	:	3x380V-50Hz AC
Relay Contact	:	250V - 5A AC (NO+NC)
Under Voltage Range	:	310 - 370V (adjustable)
Over Voltage Range	:	390 - 430V (adjustable)
Relay Off Delay Time	:	1 - 10 sec. (adjustable)
Relay On Delay Time	:	1 sec. (fixed)
Sensitivity	:	±%2
Operation Temperature	:	-5.......+50 °C
Dimensions (mm)	:	30x90x60
Net Weight	:	75 gr.

OPERATION PRINCIPLES:

This device **(RVP-05)** designed with microcontroller. Main problems for industrial type electric motors are the 3 phase voltage fluctuations and exterme overload occurrances. If 3 phases are valid and their values are with in the preset limits, the output relay switches on. If any of the phase voltages falls bellow the VDN setting value or/and exceeds the VUP setting value, the error led activates and the delay time starts counting, at the end of the preset delay time and the output relay switches off when the device 3 phase voltages are valid. If any of 3 phases fails, the relay switches off. **(RVP-05F is same with RVP-05 but phase sequence available in it)**

CONNECTION DIAGRAM

Connection Terminals
L1 : L1 Phase Input
L2 : L2 Phase Input
L3 : L3 Phase Input
N   : Neutral Input
1   : Normally Closed Contact
2   : Common Contact
3   : Normally Open Contact
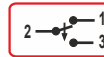
MADE IN TURKEY
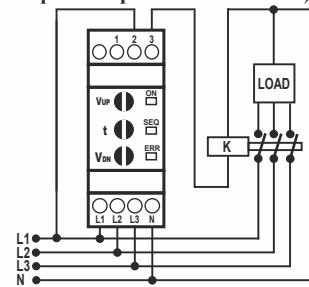
RVP-02   1 PHASE, VOLTAGE PROTECTION RELAY
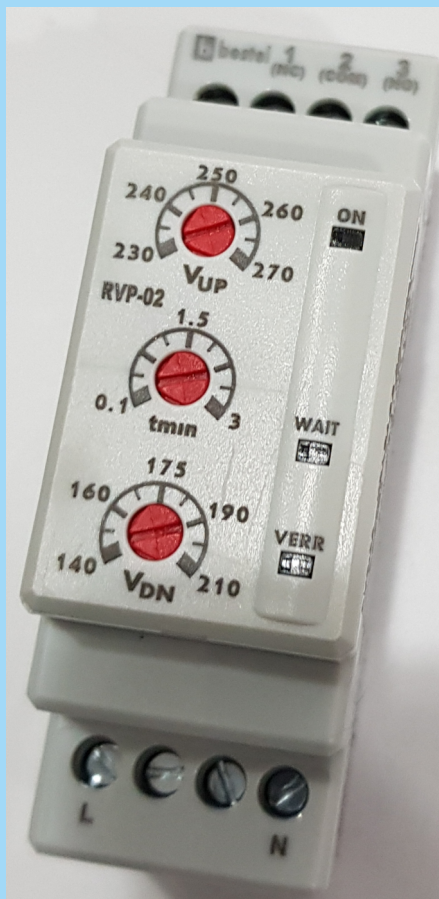
bestel

### 1 PHASE OVER-UNDER VOLTAGE CONTROL RELAY

TECHNICAL DATA:

Supply Voltage	:	220V-50Hz AC
Relay Contact	:	250V - 7A AC (NO+NC)
Under Voltage Range	:	140 - 210V (adjustable)
Over Voltage Range	:	230 - 270V (adjustable)
Relay Off Delay Time	:	1 - 10 sec. (adjustable)
Relay On Delay Time	:	1 sec. (fixed)
Sensitivity	:	±%2
Operation Temperature	:	-5.......+50 °C
Dimensions (mm)	:	30x90x60
Net Weight	:	75 gr.

OPERATION PRINCIPLES:

This device **(RVP-02)** designed with microcontroller Main problems for industrial type electric motors are the 1 phase voltage fluctuations and exterme overload occurrances. If **1 phase** are valid and their values are with in the preset limits, the output relay switches on. If the phase voltage falls bellow the VDN setting value or/and exceeds the VUP setting value, the error led activates and the delay time starts counting, at the end of the preset delay time and the output relay switches off when the device phase voltage are valid. If the phase fails, the relay switches off.

CONNECTION DIAGRAM

Connection Terminals
L   : Phase Input
N   : Neutral Input
1   : Normally Closed Contact
2   : Common Contact
3   : Normally Open Contact
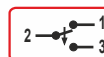
MADE IN TURKEY
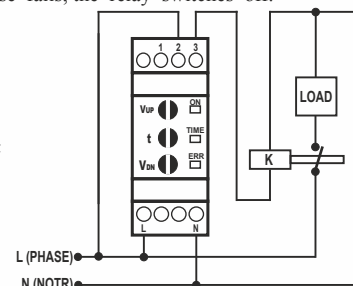
RMP-01F   PHASE (MOTOR) PROTECTION RELAY

b bestel   MOTOR (PHASE) PROTECTION RELAY
(Phase Fail)(with phase sequence control relay)

TECHNICAL DATA:

Supply Voltage (Un):	3x380V-50Hz AC
Operation Voltage	: ±%20 x Un (for 380V AC)
Contact Output	: 250V - 5A AC (NO+NC)
Sensitivity	: ±%0,5
Operation Voltage	: -5.......+50 °C
Dimensions (mm)	: 30x90x60
Net Weight	: 80 gr.

RMP-01F

OPERATION PRINCIPLES:

When L1, L2, L3 phases in normal value relay contact is on and RLY led is active.

Over Voltage : RLY led inactives and relay contacts-off with 1 seconds delay if any phase value increases %20. Then RLY led not actives.

Under Voltage: RLY led inactives and relay contacts-off with 1 seconds delay if any phase value deccreases %20. Then RLY led Not actives.

Phase Sequence : Phase sequnce is available on **RMP-01F**. When phase sequence is reversed, relay contacts off and SEQ. ERR led is active.

CONNECTION DIAGRAM

Connection Terminals
L1 : L1 Phase Input
L2 : L2 Phase Input
L3 : L3 Phase Input
N : Neutral Input
1 : Normally Closed Contact
2 : Common Contact
3 : Normally Open Contact

L1,L2,L3 : 3x380 V
N (Mp) : Neutral
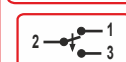
MADE IN TURKEY
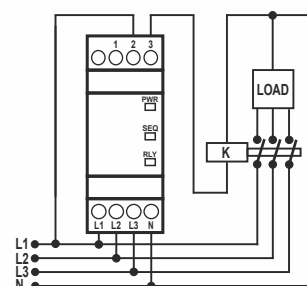
RS-D   STAR-DELTA RELAY

b bestel   STAR-DELTA RELAY

TECHNICAL DATA:

Supply Voltage	: 220V-50Hz AC or 24V AC-DC
Relay Contact	: 250V - 5A AC (1NO star-1NO delta)
Off Time	: 10 - 300 msec. (adjustable)
Star Relay On Time	: 0,1- 30 sec. (adjustable)
Sensitivity	: ±%2
Operation Temperature	: -5.......+50 °C
Dimensions (mm)	: 30x90x60
Net Weight	: 100 gr.

RS-D

OPERATION PRINCIPLES:

When power is applied between terminals, star relay contact is closed immediately and phase output is taken from terminal. At the end of adjusted **ton** time, star relay contact is released and phase output from terminal is cut off. Relay waits for adjusted **toff** time in this state. At the end of this time, delta relay contact is closed and phase output is taken from terminal.Until the supply power of relay is cut off, this state is kept. Depending on the power, producer and corrosion of the contactor, release time of contacts varies. Therefore, the safest star to delta switching time must be adjusted by the user. (10-300 msec.)
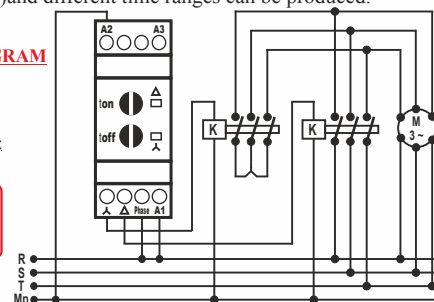
NOTE : Upon request, the relay with different voltages supplies (12-24-48-110-380V)and different time ranges can be produced.

CONNECTION DIAGRAM

A1,A2 : 220V AC-DC
A3,A2 : 24V AC-DC
PHASE : Phase Input
△ : Delta Output
入 : Star Output

PHASE INPUT

MADE IN TURKEY

RT-XX TIME RELAY (TIMER)

b bestel — TIME RELAY

TECHNICAL DATA:

Supply Voltage	: 220V-50/60Hz AC or 24V AC-DC
Relay Contact	: 250V - 5A AC (NO+NC)
Sensitivity	: ±%1
Operation Temperature	: -5.......+50 °C
Dimensions (mm)	: 30x90x60
Net Weight	: 65 gr.

OPERATION PRINCIPLES:

Time relays commanly used in industrial applications for multiple purpose to control the on and off times accurately when essential. Reliability, adjustable wide time range, high ambient tempereture (50° C) is a reason of choise for use. Device is on delay time relays. The set time counts once the devices is energized, the relay is switched on, at the end of the set time period and the led turns on. The relay keeps position until the energy is cut off.

NOTE : Upon request, the relay with different voltages supplies (12-48-110-380V) and different time ranges can be produced.
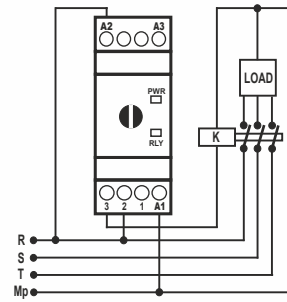
CONNECTION DIAGRAM

Connection Terminals

A1-A2	: 220V - 50 Hz AC
A3-A2	: 24V AC or DC
1	: Normally Closed Contact
2	: Common Contact
3	: Normally Open Contact

A1, A2 : 220 V
A3, A2 : 24 V

MADE IN TURKEY

RP-01 PHOTOCEL RELAY

b bestel — PHOTOCELL RELAY

TCHNICAL FEATURES:

Supply Voltage	: 220V-50Hz AC (or 24V AC-DC)
Contact Output	: 250V - 5A AC (NO+NC)
Daylight Adjustable	: 1-10 Lux. (adjustable)
On and Off Delay Time	: 15 - 30 sec. (fixed, not adjustable)
Sensitivity	: ±%0,5
Operation Temperature	: -5.......+55 °C
Dimensions (mm)	: 30x90x60
Net Weight	: 100 gr.

OPERATION PRINCIPLE:

- Monitors the daylight.
- Adjustable light intensity.(1-10 Lux).
- The ON and OFF delay time (15-30 sec.) prevents the relay activation with short interval high intensity light.
- Single contact out. (NO+NC)
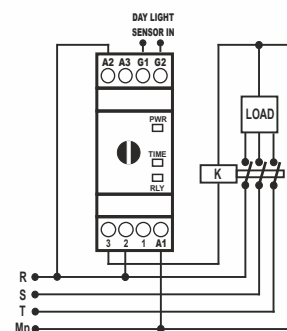- Supply Voltage (PWR), Time (Time) and Relay (RLY) leds are available.

CONNECTION DIAGRAM:

Connection Terminals

A1-A2	: 220V - 50 Hz AC
A3-A2	: 24V AC-DC
G1-G2	: Day Light Sensor input
1	: Normally Closed Contact
2	: Common Contact
3	: Normally Open Contact

A1, A2 : 220 V AC
A3, A2 : 24V AC-DC
G1, G2 : Sensor in

MADE IN TURKEY

RTM-6X MULTITIME TIMER

bestel   MULTITIME - TIMER

TECHNICAL DATA:

Supply Voltage	:	220V AC or 24V AC-DC
Relay Contact	:	250V - 7A AC (NO+NC)
Time Range	:	0,1sec - 100hour (adjustable)
Sensitivity	:	±%0,5
Operation Temperature	:	-5.......+50 °C
Dimensions (mm)	:	30x90x60
Net Weight	:	95 gr.

OPERATION PRINCIPLES:

PWR led activates when device is energized and adjusted time starts to count. At the same time RLY led lashes. Then relay contacts-on and RLY led activate when time is up. Device stays this situation until energy cut-off.

Time could adjust 0.1 sec. and 100 hours. Time interval selects with bottom roller button on the front panel. Any time can adjust in time interval with up roller button.

For instance, if bottom roller shows 100 sec. the time interval is 0,1 - 100 sec. and any exact time selects in time interval with up roller.
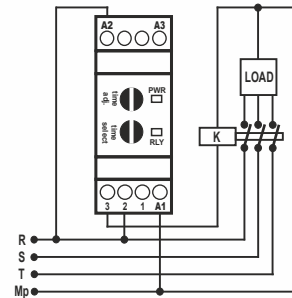
CONNECTION DIAGRAM

Connection Terminals

A1-A2 : 220V - 50 Hz. AC
A3-A2 : 24V AC or DC
1   : Normally Closed Contact
2   : Common Contact
3   : Normally Open Contact

A1, A2 : 220 V
A3, A2 : 24 V

max. tıme	t (adjustable range)
10 s (sec)	: 0,1-10 sec (adjustable)
100 s (sec)	: 0,1-100 sec (adjustable)
10 m (min)	: 0,1-10 min (adjustable)
100 m (min)	: 0,1-100 min (adjustable)
10 h (hour)	: 0,1-10 hour (adjustable)
100 h (hour)	: 0,1-100 hour (adjustable)

MADE IN TURKEY

RFM-6X   MULTITIME FLASHER RELAY

bestel   MULTITIME FLASHER

TECHNICAL DATA:

|		
Supply Voltage	:	220V AC or 24V AC-DC
Relay Contact	:	250V - 7A AC (NO+NC)
On Time Range	:	0,1sec - 100hour (adjustable)
Off Time Range	:	0,1sec - 100hour (adjustable)
Sensitivity	:	±%0,5
Operation Temperature	:	-5.......+50 °C
Dimensions (mm)	:	30x90x60
Net Weight	:	95 gr.

OPERATION PRINCIPLES:

First of all desirable **on** and **off** time range should select from button at front panel, after that desiarble exact time adjusts with **Time adj**. roller button. When device energized, the relay contacts on and at the end of adjusted time relay contacts off. Then it waits adjusted off time and again relay contacts on. Operation continues like this untill energy cut off. On and off time can be set from front panel to 6 different time

CONNECTION DIAGRAM

Connection Terminals

A1-A2 : 220V - 50 Hz. AC
A3-A2 : 24V AC or DC
1   : Normally Closed Contact
2   : Common Contact
3   : Normally Open Contact

A1, A2 : 220 V
A3, A2 : 24 V
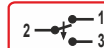
TIME RANGE (on and off)	ton and toff (adjustable range)
10 s (sec)	: 0,1-10 sec (adjustable)
100 s (sec)	: 0,1-100 sec (adjustable)
10 m (min)	: 0,1-10 min (adjustable)
100 m (min)	: 0,1-100 min (adjustable)
10 h (hour)	: 0,1-10 hour (adjustable)
100 h (hour)	: 0,1-100 hour (adjustable)
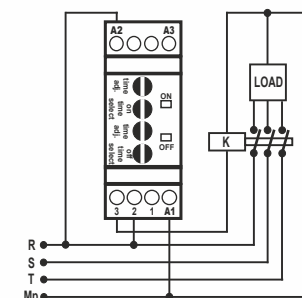
MADE IN TURKEY

bestel

bestel

EM-05   DIGITAL MULTIMETER

b bestel   DIGITAL MULTIMETER

TECHNICAL DATA:

Supply Voltage	:	220V-50Hz AC
Measurement Range	:	0 - 500V AC (1x3 digits)
		(L1,L2,L3,L1-L2,L1-L3,L2-L3)
		1 - 10000 A AC (3x3 digits)
		20-500 Hz (1x3 digits)
Screen	:	5x3 Digits, 9 mm Red Display
Sensitivity	:	±%1
Operation Temperature	:	-5.......+50 °C
Dimensions (mm)	:	96x96x45 and 72x72x57
Net Weight	:	412 gr.

OPERATION PRINCIPLES:

- Microprocessor Controlled.
- Frequencymeter available.
- The current transformer ratio must enter. Current transformer settings part appears on the screen when pressing 'Aset' button. The current transformer ratio can easily with '+' and '-' buttons. Then setting is done by pressing 'Aset' button again.
- Current transformer input range is 5/5.......10.000/5
- One of the 6 voltage measurement (L1, L2, L3, L1-L2, L1-L3, L2-L3) can choose with 'Vset' button. The voltage, which is shown on the screen will exchange every press to 'Vset' button. Also we can understand from the led's which voltage is showing on the screen.

CONNECTION DIAGRAM

MADE IN TURKEY
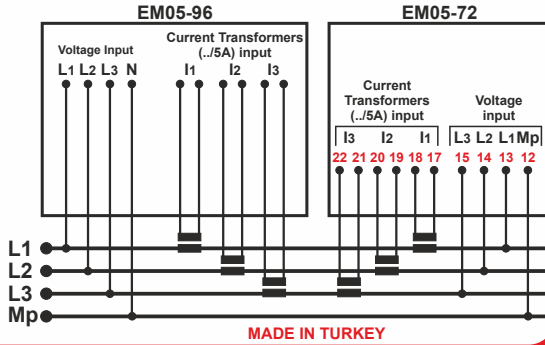
b bestel
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