DVC - the microcontroller-controlled multi-function timer provides all common functions and time ranges in one device:

16 functions:

On-delay, signal off-delay, signal on- and off-delay, one shot actuation during starting, one shot actuation during stopping, one shot actuation during starting and stopping, flicker, one shot actuation, pulse shaping, each in some cases also inverted, electronic sensor**.**

2 times - t1 and t2 - available , 4 time ranges:

0.3-3s; 1-10s; 0.1-1min; 1-10min;

The time range t1 and t2 are independent of each other.

2 operating voltages:

AC 230V (or AC 115V) and DC 12-30V

1 or 2 contacts

Design with 1 or 2 change-over contacts, 2nd change-over contact optionally as instantaneous or 2nd time closing contact.



2

Installation

Time ranges and functions are set at a 9-position DIL switch on the side of the device. A1-A2 are operating voltage connections for AC 230V (or AC 115V), B1-B2 for DC 12-30V.

Functions and time ranges cannot be altered once the operating voltage has been applied.

The devices are available with one or two change-over contacts. In the design with two change-over contacts the second contact can be optionally switched as a time closing or instantaneous contact (switch 1):



On: 2nd contact 25-26/28 as instantaneous contact
Off: 2nd contact 25-26/28 as time closing contact

The functions "signal off-delay", "signal on- and off-delay", "one shot actuation during stopping", "one shot actuation during starting and stopping", "pulse shaping" are controlled via a potential-free contact at Y1-Y2. Every change of state at Y1-Y2 directly affects the connected time function irrespective of whether a preceding reset time has elapsed or not. All other time functions start when the operating voltage is applied.

Electronic sensor

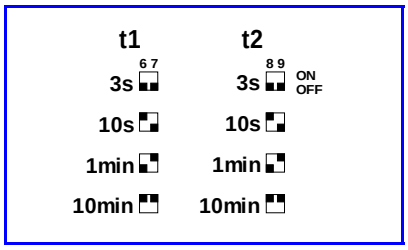
With the "electronic sensor" function the relay picks up when the value of an electrical resistance connected to terminals Z1-Z2 drops below a certain level. The DVC can be used as a contact protection relay, sensor switching amplifier, temperature probe (with external PTC/ NTC resistor) or twilight switch (with external LDR resistor) in this mode of operation.

Remote potentiometer

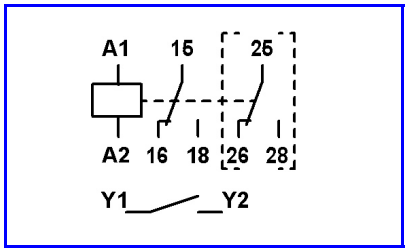
If a remote potentiometer is connected the bridge between terminals Z11-Z12 (or Z21-Z22) must be removed and the approp. potentiometer on the front set to maximum.

Time ranges

The desired time range is determined according to the following table using the selector switch 6,7 or 8,9. The time at the end position of the potentiometer t1 or t2 is given.

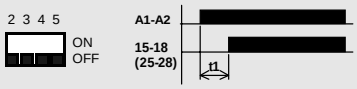


Contact Configuration



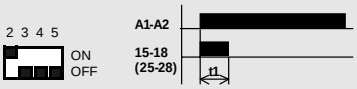
On-delay

Contact 15-16 (25-26) switches after operating voltage is applied to A1-A2 (or B1-B2) and time lapse (t1) to 15-18 (25-28).



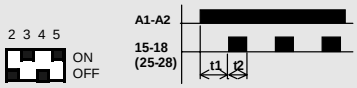
One shot actuation (starting)

Contact 15-16 (25-26) switches after operating voltage is applied to A1-A2 (or B1-B2) for the duration of the set time t1 to 15-18 (25-28)



Flicker

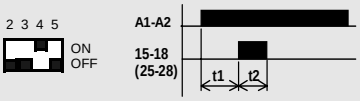
When voltage is applied to A1-A2 (B1-B2) the relay alternately switches on at time t2 and switches off at time t1, starting with the pause time t1.



The function can be inverted with switch 2 = ON (start with working time).

One shot actuation

Contact 15-16 (25-26) switches after operating voltage is applied to A1-A2 (or B1-B2) and time lapse t1 for the time of t2 to 15-18 (25-28).



The function can be inverted with switch 2 = ON.

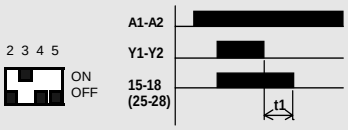
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Multi-Function Timer / Sensor Relay DVC

Signal off-delay

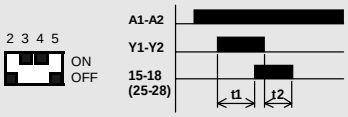
Contact 15-16 (25-26) switches after the potential-free contact closes at Y1-Y2 to 15-18 (25-28). When Y1-Y2 opens the off-delay time t1 starts, after which the contact switches back to 15-16 (25-26).



The function can be inverted with switch 2 = ON.

Signal on- and off-delay

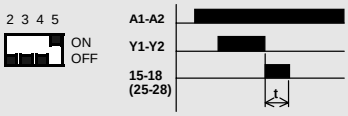
If Y1-Y2 is connected via a potential-free contact, contact 15-16 (25-26) switches on expiry of t1 to 15-18 (25-28). When Y1-Y2 opens the time lapse t2 starts the off-delay, after which the contact switches back to 15-16 (25-26).



The function can be inverted with switch 2 = ON.

One shot actuation (stopping)

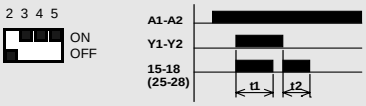
If the closed potential-free contact at Y1-Y2 is opened, contact 15-16 (25-26) switches to 15-18 (25-28) for the duration t1.



The function can be inverted with switch 2 = ON.

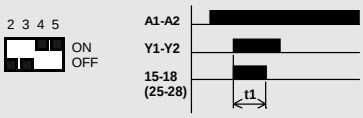
One shot actuation during starting and stopping

Contact 15-16 (25-26) switches to 15-18 (25-28) for the time t1 after the potential-free contact closes at Y1-Y2. Once Y1-Y2 opens the contact 15-16 (25-26) switches to 15-18 (25-28) for the duration t2.



Pulse shaping

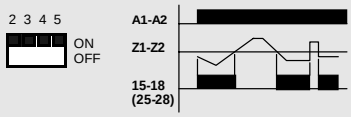
Contact 15-16 (25-26) switches to 15-18 (25-28) for the duration t1 when the potential-free contact closes at Y1-Y2 irrespective of whether the potential-free contact is opened before or after expiry of the time t.

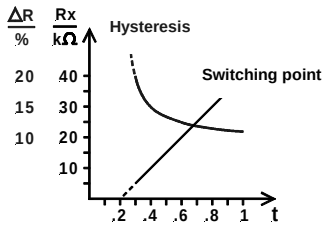


The function can be inverted with switch 2 = ON.

Electronic sensor

Contact 15-16 (25-26) switches to 15-18 (25-28) if an electrical resistance between terminals Z11-Z12 falls below a certain value. The switching threshold can be set on the front potentiometer t1. The hysteresis depends on the resistance value used.



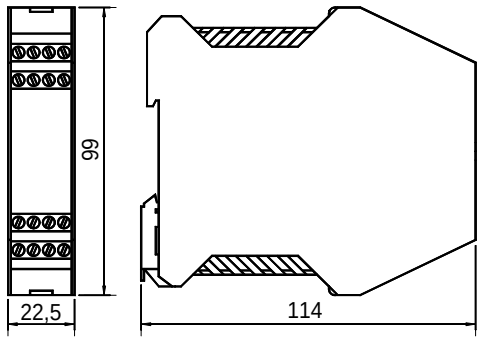


Accessories/optional extras

Remote potentiometer DFP 100kOhm including rotary knob, scale and installation kit
(see data sheet DFP)
on request:
Semi-conductor relay outputs AC 1A/250V
other functions/time ranges

Order-No	Type
416000	DVC AC230V/DC12-30V, 1 contact
416010	DVC AC115V/DC12-30V, 1 contact
416100	DVC AC230V/DC12-30V, 2 contacts
416110	DVC AC115V/DC12-30V, 2 contacts
445091	Remote potentiometer DFP 100k

Specifications	
Operating voltage U_N	AC 230V, 50-60Hz und DC 12-30V, AC 115V, 50-60Hz und DC 12-30V
Voltage tolerance	90..110% of U_N
Power consumption	AC 3,5VA bei 230V, DC <3W
LED´s	yellow: stand by green: relay contact 15-18 (25-28) switched
Protection	IP20
Time ranges	0.1s - 10min
Input resistance sensor relay	5-40kOhm
Repeat accuracy	+/- 0.5%
Reclose readiness	< 60ms
Switching capacity	AC 250V: max. 8A, max. 2000VA DC: 2A bei 24VDC
Contact life	mechanical $2x10^7$ operations
Temperature dependence	0.1% /°C
Temperature range	-20^0 - + 60^0C (dew-free)
Dielectric strength	4kV DIN VDE 0110-1:1997-04
Weight: approx	approx. 200g
Installation position	any, DIN-rail mounting



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