veXen electric DMR201U Twilight Switch with Sensor Instructions

Contents

veXen electric DMR201U Twilight Switch with Sensor

Product Information

Product Model	DMR201U, DMR202U
Function	20 functions
Supply terminals	A1-A2
Voltage range	AC/DC 12-240V (50-60Hz)
Rated burden	AC 0.09-3VA/DC 0.05-1.7W
Power input	AC max.6VA/1.3W AC max.6VA/1.9W
Supply voltage tolerance	-15%;+10%
Time ranges	0.1s-99h, ON, OFF
Time setting	Key setting
Time deviation	1%
Repeat accuracy	0.2%-set value stability
Temperature coefficient	N/A
Output	Current rating: N/A Switching voltage: 250VAC/24VDC Min.breaking capacity DC: 500mW Output indication: red LED
Mechanical life	N/A
Electrical life(AC1)	N/A
Reset time	max.200ms
Operating temperature	N/A
Storage temperature	N/A
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage cathegory	lll.
Pollution degree	2
Dimensions	N/A
Weight	N/A
Standards	EN 61812-1, IEC60947-5-1

Product Usage Instructions

The DMR201U and DMR202U are digital display time relays with various functions. They are designed to operate with a voltage range of AC/DC 12-240V (50-60Hz) and have a rated burden of AC 0.09-3VA/DC 0.05-1.7W. The relays can be mounted on a DIN rail according to the DIN rail EN/IEC 60715 standard. To set the time ranges and functions of the time relay, use the key setting on the device. The time deviation is set to 1% and the repeat accuracy is 0.2% of the set value stability. The output of the relay has a switching voltage of 250VAC/24VDC and a min. breaking capacity of 500mW. The output indication is a red LED. Please refer to the product manual for

specific instructions on how to wire and configure the DMR201U and DMR202U time relays.

GENERAL

- Multifunctional time relay can be used for industrial equipment, lighting control, heating element control, motor, fan control.
- With 20 delay modes, the delay range covers 0.1 seconds to 99 days.

Function Features

- 20 delay modes
- 5 delay modes controlled by power supply
- 13 delay modes controlled by signal
- ON, OFF mode
- Ultra wide delay range, 0.1 seconds – 99 days can be set.
- Relay status is indicated by LED.
- 1-MODULE, DIN rail mounting.

TECHNICAL PARAMETERS

- Function 20
- Supply terminals A1-A2
- Voltage range AC/DC 12-240V (50-60Hz)
- Rated burden AC 0.09-3VA/DC 0.05-1.7W
- Voltage range AC 230V (50-60Hz)
- Power input AC max.6VA/1.3W AC max.6VA/1.9W
- Supply voltage tolerance -15%;+10%
- Time ranges 0.1s-99h,ON,OFF
- Time setting Key setting
- Time deviation ≤1%
- Repeat accuracy 0.2%-set value stability
- Temperature coefficient 0.05%/°C,at=20°C (0.05%°F, at=68°F)
- Output 1×SPDT 2×SPDT
- Current rating 1×16A (AC1) 2×16A (AC1)
- Switching voltage 250VAC/24VDC
- Min.breaking capacity DC 500mW
- Output indication red LED
- Mechanical life 1×10^7
- Electrical life(AC1) 1×10^5
- Reset time max.200ms
- Operating temperature -20°C to +55°C (-4°F to 131°F)
- Storage temperature -35°C to +75°C (-22°F to 158°F)
- Mounting/DIN rail Din rail EN/IEC 60715
- Protection degree IP40 for front panel/IP20 terminals

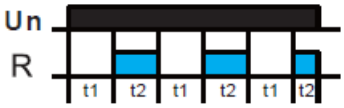
- Operating position any
- Overvoltage cathegory lll.
- Pollution degree 2
- Max.cable size(mm²) solid wire max.1×2.5or 2×1.5 /with sleeve max.1×2.5(AWG 12)
- Dimensions 90×18×64mm
- Weight
    - 1×SPDT:W240 – 62g,A230-60g
    - 2×SPDT:W240 – 82g,A230-81g
- Standards EN 61812-1, IEC60947-5-1
- DMR201U DMR202U
- 20 functions

FUNCTIONS DIAGRAM

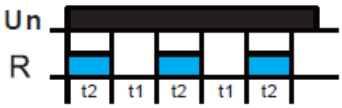
On Delay (Power On)
When relay Un is powered on, the relay starts to delay, and the output contact is closed after delay t. After the relay Un is de energized, the output contact is disconnected and the S control signal is invalid in this function mode.

B:Interval (Power On)
When relay Un is powered on, the relay output contact will be closed immediately and start delay. After delay t, the output contact will be disconnected. If the delay time t does not arrive and relay Un is powered off, the output contact will be disconnected, and the S control signal is invalid in this function mode.

B:Interval (Power On)
When relay Un is powered on, the relay output contact will be closed immediately and start delay. After delay t, the output contact will be disconnected. If the delay time t does not arrive and relay Un is powered off, the output contact will be disconnected, and the S control signal is invalid in this function mode.

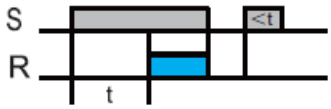


Repeat cycle (Starting On)
When the relay Un is powered on, the relay is closed and begins to delay. After the delay t2, the output contact is disconnected. At the same time, after the delay time t1, the relay output contact is closed. In this way, the cycle delay is delayed until the relay Un is powered off, and the S control signal is invalid in this function mode.

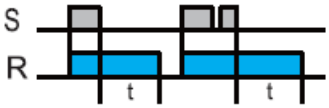


Pulse generator(Power On)
When relay Un is powered on, the relay starts to delay. After delay t1, the output contact is closed. At the same time, after delay t2, the relay is disconnected and maintained. After relay Un is powered off, the output contact is disconnected. S control signal is invalid in this function mode.

On delay with external control
When the relay Un is in the power on state, when the S control terminal is connected, the relay starts to delay. After the delay t, the output contact is closed. When the S control terminal is disconnected, the output contact is disconnected.

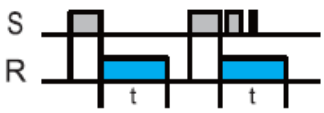


Off delay with external start
When the relay Un is in the power on state, when the S control terminal is connected, the relay will be closed immediately. When the S control terminal is disconnected, the delay will start. After the delay t, the output contact will be disconnected. During the delay process, the S the delay t will be cleared and delayed againcontrol terminal will be .connected and disconnected again.

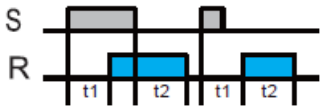


Pulse I with external start
When the relay Un is in the energized state, when the S control terminal is connected, the relay is closed, and the relay starts to delay. After the delay t, the output contact is disconnected. During the delay t, the S control terminal is connected again, and the delay t remains unchanged and continues to delay.

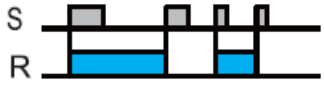
Pulse II with external start
When the relay Un is in the energized state, when the S control terminal is disconnected, the relay is closed, and the relay starts to delay. After the delay t, the output contact is disconnected. During the delay t, the S control terminal is switched on and off again, and the delay t remains unchanged and continues to delay.



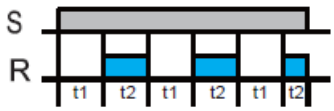
On/off delay with external control
When the relay Un is in the energized state, when the S control terminal is connected, the relay starts to delay, and the output contact is closed after delay t1. When the S control terminal is disconnected, the relay starts to delay, and the output contact is opened after delay t2.



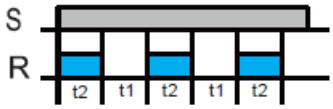
Latching relay
When the relay us is energized and the S control terminal is connected, the relay output contact state changes.



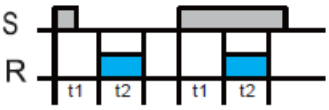
Repeat cycle with external control (Starting Off)
When the relay us is in the energized state, the S terminal is closed and the relay starts to delay. After the delay T1, the output contact is closed. At the same time, after the delay T2, the relay output contact is disconnected. This cycle delays until the S terminal is disconnected.



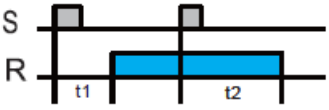
Repeat cycle with external control (Starting On)
The relay Un is in the energized state, the S terminal is closed, the relay is closed and begins to delay, the output contact is disconnected after delay t2, and the relay output contact is closed after delay time t1. This cycle delays until the S terminal is disconnected.



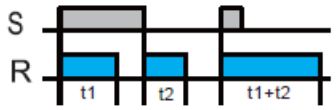
Pulse generator with external start
Relay Un is in the energized state. When terminal S is closed, the relay starts to delay. After delay T1, the output contact is closed. At the same time, after delay T2, the relay is disconnected.



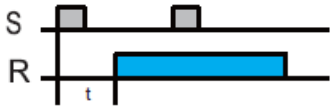
Start-stop
Relay Un is in the energized state. When terminal S is closed, the relay starts to delay. After delay T1, the output contact is closed. At the same time, after delay T2, the relay is disconnected.



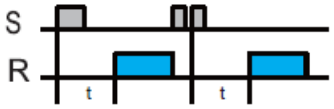
Start-stop
Relay Un is in the energized state. When terminal S is closed, the relay starts to delay. After delay T1, the output contact is closed. At the same time, after delay T2, the relay is disconnected. Relay Un is in the energized state. When terminal S is closed, the relay starts to delay. After delay T1, the output contact is closed. At the same time, after delay T2, the relay is disconnected.



On delay I by external start
The relay Un is in the energized state. When the S terminal is closed, the relay starts to delay. After the delay t, the output contact is closed and held. When the relay Un is disconnected, the relay is disconnected.



On delay II with external start
Relay Un is in the energized state. When terminal S is triggered, the relay starts to delay, and the output contact closes after delay t. when terminal S is triggered again, the relay opens and starts to delay, and the output contact closes after delay t. When relay Un is off, the relay is off.

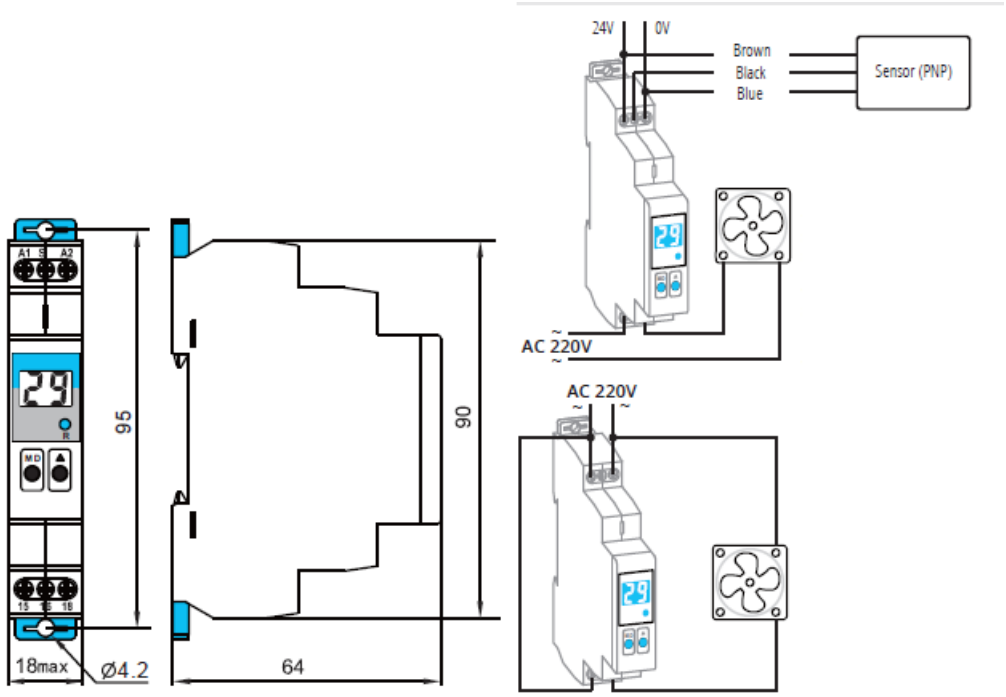


Always ON
Relay Un is in the energized state, the relay is closed, Un is in the de energized state, and the relay is disconnected.

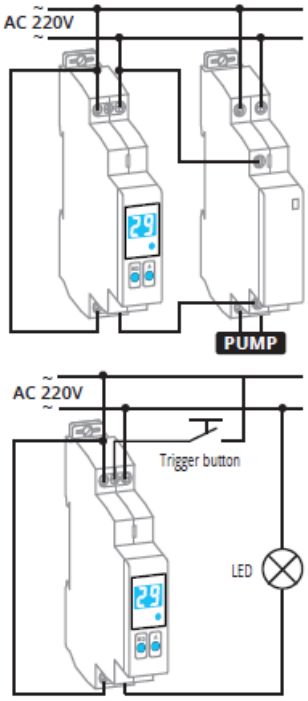
Always OFF
Relay Un is energized or de energized, and both relays are disconnected.

DIMENSIONS (mm)

EXAMPLES
NOTE: the use case is for reference only to understand the working principle of the relay. The actual application should be wired according to the actual needs.

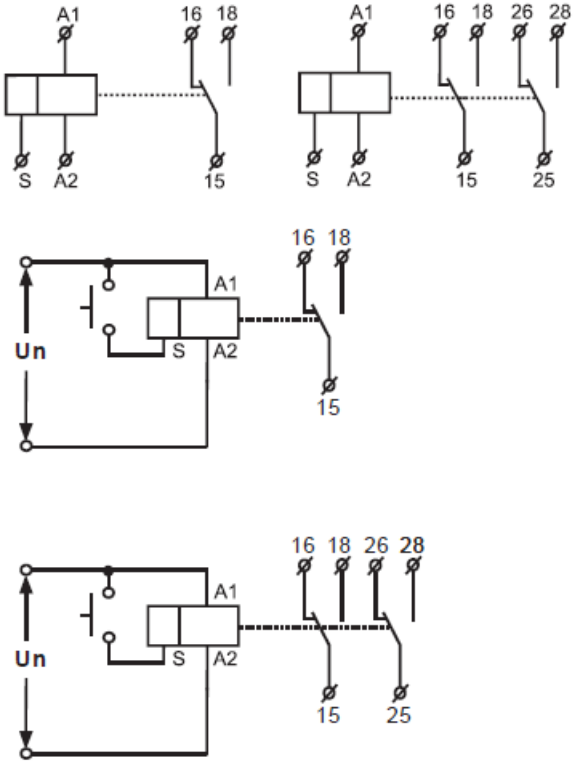


- **CASE1:** The working mode is set to 07 and accessed through the sensor (PNP). When the sensor senses the signal, the relay acts (15-18 is closed) and the ventilation fan works. When the sensor loses the signal, the relay disconnects after a delay t (15-18 is disconnected) and the ventilation fan stops working.
- **CASE 2:** The working mode is set to 03, the ventilation fan is turned on for 10 hours and turned off for 1 hour, and the ventilation fan is cycled on and off.

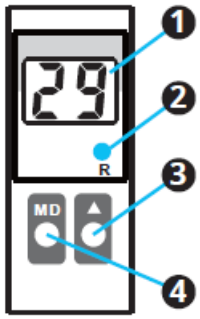


- **CASE 3:** When the working mode is set to 02, the time relay is powered on (15-18 is closed), the contactor is closed, the water pump starts to work, the delay t reaches, the relay is disconnected (15-18 is disconnected), the contactor is disconnected, and the water pump stops working.
- **CASE 4:** The working mode is set to 08, press the trigger button, the time relay acts (15-18 is closed), turn on the LED, delays t, the relay is disconnected (15-18 is disconnected), and the LED is closed.

WIRING DIAGRAM



PANEL DIAGRAM

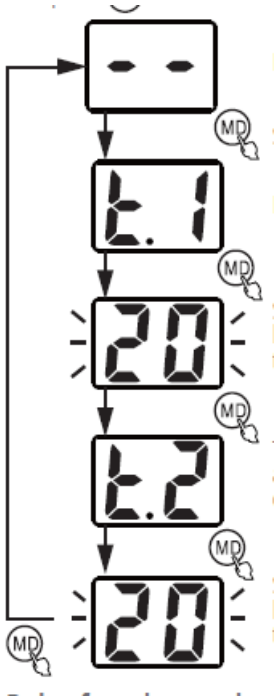


1. Digital display
2. Output indication (red)
3. Button (Set)
4. Button (UP)

ADJUSTMENT OF THE PRODUCT

Fast adjustment of delay time

Short press (MD) to enter the interface of fast setting delay time, as shown below:

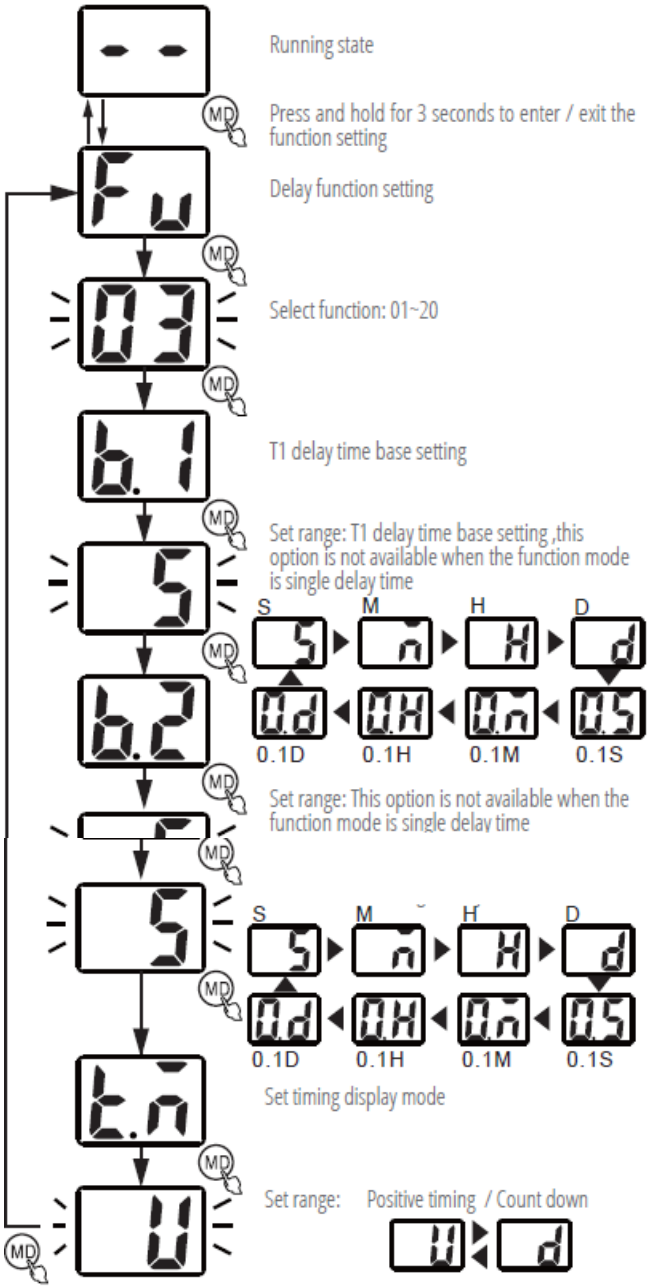


- Running state
- Short press to enter the delay time setting
- Delay time T1 setting
- Short press ▲ to adjust the parameter value, long press to realize rapid adjustment (when the value exceeds 99, it will start from 0)
- The delay time T2 setting ,this option is not available when the function mode is single delay time
- Short press ▲ to adjust the parameter value, long press to realize rapid adjustment (when the value exceeds 99, it will start from 0)

Delay function setting

Long press MD 3 seconds to enter the function mode parameter setting interface, as shown below:

Short press MD to adjust the parameter value, long press to realize rapid adjustment, if there is no operation key within 60 seconds, it will automatically exit the setting mode. In the setting mode, You can press ▲ and hold the key for 3 seconds to exit and save the settings.



DISPOSAL OF ELECTRICAL WASTE
All electrical waste should be disposed of in compliance with current WEEE regulations

CAUTION!
The products must be installed by qualified electricians. All and any electrical connections of the time relay shall comply with the appropriate safety standards.

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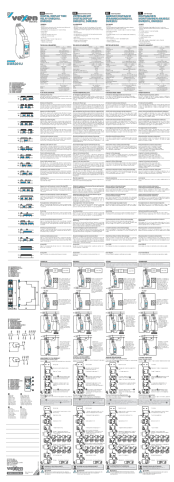
Documents / Resources

	**veXen electric DMR201U Twilight Switch with Sensor** [pdf] Instructions DMR201U, DMR202U, DMR201U Twilight Switch with Sensor, Twilight Switch with Sensor, Switch with Sensor, Sensor