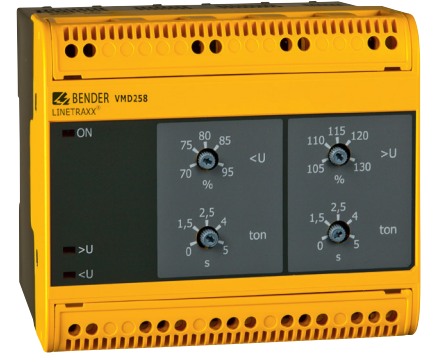


This document is intended as a reference guide for installing and using the Bender VMD258 series voltage relay. This document includes installation, setup, and usage instructions. For complete details, including installation, setup, settings, and troubleshooting, refer to the VMD258 user manual. This document is intended as a supplement and not a replacement to the complete user manual.

Only qualified maintenance personnel shall operate or service this equipment. These instructions should not be viewed as sufficient for those who are not otherwise qualified to operate or service this equipment. This document is intended to provide accurate information only. No responsibility is assumed by Bender for any consequences arising from use of this document.



Installation

Mounting

The VMD258 may be DIN rail mounted, or screw mounted using mounting clips on both the top and bottom of the device. For screw mounting, an additional set of clips is required and ordered separately, ordering number B 98060008.

Wiring - General

Refer to figure 1 for wiring the VMD258. Use minimum AWG 24, maximum AWG 13 size wire (All sizes refer to standard THHN wire). Rated system voltage is dependent on type of VMD258 ordered. Refer to rated voltage on side of device to ensure proper rating for the monitored system. Refer to VMD258 series user manual for complete technical details.

⚠ DANGER

**HAZARD OF ELECTRIC SHOCK,
EXPLOSION, OR ARC FLASH**

- Disconnect all power before servicing.
- Observe all local, state, and national codes, standards, and regulations.

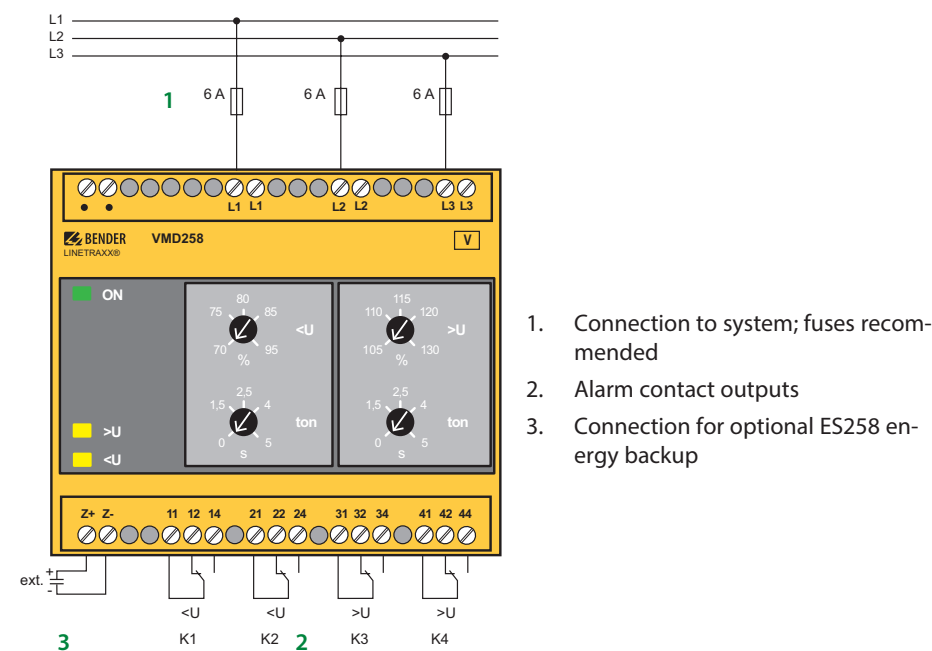


Figure 1 - Wiring diagram for VMD258

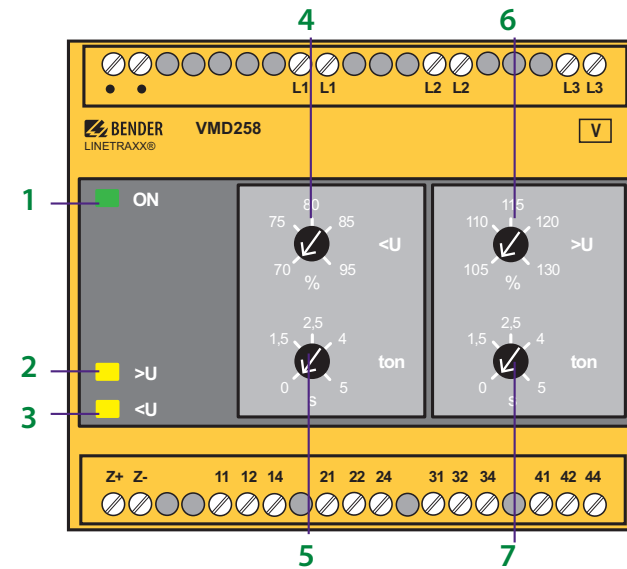
Wiring - Contacts

Using a normally closed or normally open contact utilizes two factors: wiring out of the proper terminal, and setting the respective contact to normally energized or deenergized operation. Refer to the chart below for relay conditions.

The behavior of each contact is specified in the table below.

Device Relay Conditions			
Relay Operation Setting	Device Alarm State	K1 / K3 STATE	K2 / K4 STATE
Normally deenergized mode (N/D) Non-failsafe mode	Power ON, normal state (no alarms)	31-32 CLOSED 31-34 OPEN	41-42 CLOSED 41-44 OPEN
	Power OFF	31-32 CLOSED 31-34 OPEN	41-42 CLOSED 41-44 OPEN
Overvoltage alarm Relays K3 / K4	Power ON, alarm state	31-32 OPEN 31-34 CLOSED	41-42 OPEN 41-44 CLOSED
	Power OFF	31-32 CLOSED 31-34 OPEN	41-42 CLOSED 41-44 OPEN
Normally energized mode (N/E) Failsafe mode	Power ON, normal state (no alarms)	11-12 OPEN 11-14 CLOSED	21-22 OPEN 21-24 CLOSED
	Power OFF	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN
	Power ON, alarm state	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN

Front Panel Display



1. Power ON LED "ON" (green)
2. Alarm LED ">U" (yellow): Lights when the overvoltage alarm is activated.
3. Alarm LED "<U" (yellow): Lights when the undervoltage alarm is activated.
4. Undervoltage alarm adjustment
5. Time delay adjustment for undervoltage alarm
6. Overvoltage alarm adjustment
7. Time delay adjustment for overvoltage alarm.

Alarm Adjustments

All alarm adjustments are made using the potentiometers on the front of the device. Use a flathead screwdriver or equivalent to turn the potentiometer to the desired value.

- **Undervoltage alarm:** Adjustment values are made as a percentage, based on the rated system voltage of the device. This rating can be found on the side of the device. The undervoltage setting may be set to 70 - 95% of the rated system voltage. Example: A 480 V rated device with a desired undervoltage value of 430 V would require an adjustment to 90%.
- **Overvoltage alarm:** Adjustment values are made as a percentage, based on the rated system voltage of the device. This rating can be found on the side of the device. The overvoltage setting may be set to 105 - 130% of the rated system voltage. Example: A 480 V rated device with a desired overvoltage value of 530 V would require an adjustment to 110%.
- **Time delays:** Time delays for overvoltage and undervoltage alarms are separately adjustable. These are fixed values, adjustable from 0 - 5 seconds.

Dimensions

Dimensions listed in inches (mm).

