This shutter driver device complies with CE, UL, CSA standards for laboratory equipment. For externally timed control, the VCM-D1 is ideal. In addition to shutter control from the BNC inputs, these inputs can also be controlled via a computer serial port (RS-232C). By selecting the proper address for each unit, a number of devices can be controlled from one serial port. Eight individual addresses are available. Easily daisy chain up to 8 units together using 810RJ cables.

With key selection, the VCM-D1 can be operated in any one of three modes, outlined under features, depending on the application. In addition, it can be used for normally-closed and normally-open shutter configurations. Exposure control can be activated by external pulse or remote actuate cable. Reset can be accomplished by external pulse, front panel reset switch or remote actuate cable.

**FEATURES**

- CE/UL/CSA certification.
- Replaces the VMM-D1 controller.
- Three modes of operation to be selected with key switch.
  1) Standard shutter operation (STD) exposure determined by external pulse source or switch contact closure.
  2) Line interrupt (A) with power loss; unit powers down. When power is restored, unit must be manually or remotely reset to resume standard operation.
  3) DC interrupt (B) detects break in external switch contact. When continuity is restored, unit must be manually or remotely reset to resume standard operation.
- Normally-open or normally-closed shutter operation.
- Exposure determined by external pulse (BNC, TTL) or switch contact closure.
- Pulsed on/pulsed off exposure control (BNC, TTL) from external trigger pulse or remote actuate cable.
- Reset from external pulse (BNC, TTL), front panel reset pushbutton switch or remote actuate cable.
- All BNC outputs can be selected to source either active-high or active-low.
- All BNC inputs can be selected for control from a rising or falling edge.
- RS-232C input and output connection accessible via dual RJ45 connector.
- All inputs and AUX output controllable via RS-232 interface.
- Logic state of AUX output controlled via commands from the RS-232C input.
- RS-232C interface addressable via 8 selectable addresses.
- Up to 8 units can be controlled independently from one computer serial port.
- Units can be easily daisy chained with RJ45 cable, 810RJ.
- LOCAL/REMOTE switch allows manual operation of the shutter without requiring removal of external input signals.
- Exposure pulse output BNC, TTL.
- Electronic synchronization output BNC, TTL.
- Electronic Synchronization system can be disabled via rear panel function switch.
- Selectable pulse energy for operation of the 35, 45, 65 and 90mm shutter types.
- SwitchCraft shutter interface connector.
- 710A shutter interconnect cable included. (7-pin WPI female to 5-pin SWC male, 3 meters.)
- Black aluminum enclosure with slots for ventilation.
- Operates on both 115AC and 230 AC voltages, manual switching as required. Fuse protected.
- Internal fuse protection for all DC output voltages
- Power input 115/230 VAC three prong plug.
- Size (HWD) 2.73 x 5.41 x 8.18 in. (69.3x137.4x207.8 mm)
- Weight 4.0 lbs (1.81kg).

**OPTIONS**

- 710R-(BNC male to hand held pushbutton switch.) For remote manual operation of the VCM-D1, this 10' remote activate cable is available. The 710R connects to any VCM-D1 input BNC (active-low) connector. Upon depression of the hand held switch, the selected input BNC function will be activated. (A foot activated switch can be substituted for the hand held type; please order 710R/F.)
- 810RJ-(8-pin RJ45 male to 8-pin RJ45 male). For connecting a single VCM-D1 unit to a computer’s serial port or interconnecting between VCM-D1 controllers for daisy chain application, this 10’ interconnect cable is available. The 810RJ connects the RS-232 computer serial port to the RS-232C input of the VCM-D1. 910RJF included.
- 910RJM-male adapter to connect 810RJ cable to controllers equipped with 9-pin D-sub female connector.
- LVD96 - ("LVDS" Driver/Receiver Adapter). For applications requiring an interface between LVDS (Low Voltage Differential Signaling) and TTL (Transistor Transistor Logic) signal levels.
- 910RJF included with 810RJ to connect RJ45 serial cable to 9-pin D-sub of host computer.
Simple and straightforward controls allow the VCM-D1 to be easy to use and configure. LED indicators reveal shutter status at a glance, while the MODE key switch will set the unit to a specific interrupt mode not allowing an inadvertent change in setting once the key is removed. Additional interrupt functions are available at the MODE CONTROL 7-PIN pluggable connector. The AUX output and +5VDC output are also available at the MODE CONTROL connector.

All main input/output functions can be accessed at the VCM-D1 rear panel, including the 115/230VAC input which is manually selectable. Additionally, BNC connectors allow for quick termination of TTL command signals. Function switches A-F determine the active state of the BNC inputs or outputs (high or low level active). Function switch H selects HIGH/LOW energy level. Function switch G will disable the SYNC output BNC and disable the IR emitter of the synchronization circuit within the shutter used. Addressable RS-232 control is also available via the 8-pin RJ45 connectors. Daisy chain additional VCM-D1 units by connecting the RJ45 output of one controller to the RJ45 input of the next controller in the chain. The unit’s specific address in the chain is selected via the ADDRESS rotary octal switch. Shutter output is a female SwitchCraft-connector with locking lever.