

OI-SC4 Shutter Controller Rev. A

User Guide



Fig. 1

Introduction

The OI-SC4 is an external box complete with mains power supply, which allows the OASIS-4i (or any device with TTL compatible outputs), to drive Vincent Associates' Uniblitz range of shutters. (Specifically their VS14, VS25, VS35 and VS45 shutters).

Up to four Uniblitz shutters may be connected to the OI-SC4, and driven independently. The unit takes care of the need to switch a high voltage pulse to the shutter, for a short duration (16mS in this case), followed by a sustained lower (holding) voltage. The shutter remains active (closed) whilst a logic-low TTL control signal is applied. Any accurate timing of the shutter period must be done by the controlling device.

Controls

A toggle switch has been added to the front panel above the LED for shutter 1. This allows manual operation of shutter 1. The TTL input signal for channel 1 needs to be inactive (high), so that the shutter is closed, for the manual switch to operate correctly. Likewise, leave the switch in the up (off) position when driving the shutter via the TTL control input.

Connector Description



Fig. 2

A.C. Power is supplied to the unit via a switched and fused inlet connector at the rear. The input is universal at 100V to 240Va.c. 1 amp maximum. The fuse is rated at 250V 1A. When the supply is connected and switched on, a green LED on the front panel illuminates to indicate this. The LED is driven from the +5V rail of the internal PSU.

The TTL control input is via a 9-pin male D-type connector at the rear of the unit. The pin-out is as follows:-

Pin No.	Signal
1	Shutter 1 TTL control
2	Shutter 2 TTL control
3	Shutter 3 TTL control
4	Shutter 4 TTL control
5	No Connection
6	Ground
7	Ground
8	Ground
9	Ground

Manual operation of the shutters is possible by switching the appropriate control inputs to ground.

Also situated at the rear of the unit are the output connectors for shutters 1, 2 and 3. The output connector for shutter 4 is situated on the front panel. These connectors are 4-pin, Thomas & Betts, Triad series sockets. The pin-out of each of these is as follows:-

Pin No.	Signal
1	Open-Collector (3.3V to 5V) output
2	Ground
3	Shutter drive
4	Ground

The open-collector output on pin 1 is only available if the shutter drive signal is disabled and vice-versa. Which signal is available is selectable via dip-switches inside the unit. Thus, for example, it would be possible to have two shutters connected to outputs one and two, and have two open-collector outputs controlling other equipment, connected to outputs three and four. Any combination of shutter drives and open-collector outputs is possible.

When an output is configured for driving a shutter, setting the appropriate control input active, causes the output to provide a high-voltage pulse to close the shutter. An LED on the front panel illuminates to indicate this. During this time the current supplied is checked to make sure it is neither too high nor too low. If it is OK then the lower holding voltage is applied and the LED remains illuminated for the duration of the control signal pulse. If the current is deemed to high or too low then the shutter output is disabled and the LED goes off.



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