DIGITAL STROBOSCOPE

MODELS E-78A E-78B

WARNING! The flashing light of a stroboscope may induce seizures in a person with epilepsy or one who is subject to photo-convulsions. Do now allow exposure of known or possible epileptics to any form of stroboscopic light. Any public usage or display must carry a prominent warning.

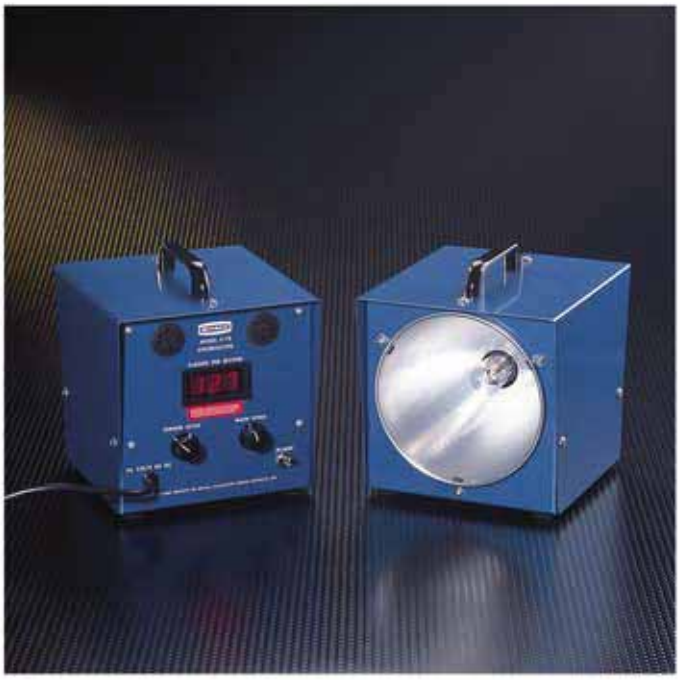
GENERAL: The WINSCO Model E-78A (115 volts) and E-78B (220 volts) Digital Stroboscope is a calibrated, general purpose unit used for viewing applications and speed measurement. The speed range is from approximately 3 flashes per second to 83.3 flashes per second. (180-5000 fpm)

UNPACKING: Carefully unpack your new Digital Stroboscope and inspect for damage which may have occurred during shipment. Should any damage be evident, immediately notify the carrier and request instructions for making a claim. Be sure to save all packing and shipping materials.

OPERATION: Check the strobe's flash tube to be sure it is fully inserted into its socket. Connect the line cord to 115 volts, 60 Hz power source (E-78A), turn the power switch on and adjust the main and vernier speed controls for optimum viewing. The best image will usually be obtained when the flash rate is the same as the repetition rate of the pattern. Start the flash rate at maximum speed or at least at a speed known to be higher than the pattern repetition rate, then decrease the flash rate until the first single stationary image is obtained. The stroboscope will then be flashing at the speed of rotation or image repetition rate. This flash rate can now be easily read from the digital readout in flashes per second (fps). Multiplication by 60 will, of course, convert the reading to flashes per minute.

A little thought and some experimentation will show that a single image can also be obtained when the flash rate is a sub-multiple of the actual speed. That is to say, when the flash rate is 1/2, 1/3, 1/4, 1/5, etc., of the actual speed. This explains why it is important to start the flash at a rate higher than the speed to be measured. With this method we can be sure that the first single image we come to when decreasing the flash rate is the one whose speed is to be measured.

It also follows that if we know the approximate value of a speed higher than the maximum flash rate of the strobe, we can accurately measure it by flashing at a sub-multiple. For example, if we know that a shaft with a single keyway is turning in the vicinity of 140 RPS (8400 RPM), we have only to look for the single keyway image with a flash rate of



about 70 fps. We would then merely multiply our reading by 2. We could also, of course, look for a single image at 1/3 speed or about 46.7 fps.

If we need to measure an unknown speed which is above the maximum flash rate of 83.3 fps, this can easily be done by following the simple procedure outlined in PN 106 (see "Product Notes" on our website).

ACCURACY: The system time base is controlled by a crystal oscillator with an accuracy of .01%. The flash signal is derived from a variable oscillator by multiple digital divisions. This variable oscillator also provides the pulse train which is counted to establish the digital read-out of flash rate.

SERVICE: If factory service is required, return the unit prepaid and insured; be sure to include your return address.

NOTE: There are no customer serviceable parts inside the cabinet – all servicing should be referred to a qualified technician. CIRCUIT VOLTAGES ARE DANGEROUS TO LIFE.

If a replacement flash tube is needed, go to our website at **www.winsco.com**, select "Replacement Parts" from the main menu, and order Catalog No. WFT-2. DO NOT USE ANY OTHER FLASH TUBE, OR INTERNAL CIRCUIT DAMAGE MAY RESULT.

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