OPTICAL RELAY HAS NO MOVING PARTS

Do you want a device that will let you control a large signal with a small a.c. or d.c. voltage? A new series of photocell-lamp modules by Clairex fits this application, nicely. At least one other manufacturer (Raytheon) has a similar device, but the Clairex prices hurt the pocketbook the least.

The basic photocell-lamp module is a four-terminal device containing a light source at one end, and a photoresistor at the other end. Dubbed "Photomod," the unit provides complete isolation between the control and signal circuits. The control signal is applied to the light bulb, and the light shines directly on the light-sensitive resistor. Resistance goes down in proportion to the amount of light, and thus the output current follows the input voltage.

Slow response is achieved because of the time required to heat or cool the filament in the light bulb. It takes a few milliseconds for the output to change smoothly from a high resistance to a low resistance or from a low resistance to a high resistance. This slow action promptly "absorbs" any transient, noise, or key click.

Each model offered by the manufacturer is only 3/8" in diameter by 1 1/2" long. You have a choice of bulbs from a 6-volt to a 120-volt, 40-ma. incandescent lamp, to two models of a 3-mil neon lamp (externally current limited). The incandescent lamps are slower, easier to drive, and produce lower values of on resistance, while the neon are more linear, faster, and require less current. The photoresistor is rated at 50 milliwatts dissipation, and typically has an off resistance of 100 megohms, and an on resistance of less than 40 ohms.

The Photomod serves either as a switch or as a linear, electrically variable resistor. As a switch, it is suitable for musical instruments, VFO's, and inductive loads where noise, key clicks, and transients are intolerable. A Photomod can also be employed to remote-control a power SCR, using a 6-volt battery and bell wire. Or it can replace or shunt the brightness pot in a dimmer, and thus automatically provide more or less lighting as needed. Drive it with a few milliwatts of music and you can make hundreds of watts of light "paint" a picture.

For linear applications, Photomods make dandy a.v.c. and a.g.c. systems and remote voltage controls. For frequency control applications, you can use Photomods to replace the resistors in the timing circuits of multivibrators and oscillators.

Made by Clairex Corp., 8 W. 30th St., New York, N.Y. 10001, "Photomod" Photocell-Lamp Modules CLM3006 through CLM4120 can be purchased from distributors at $3.25 each. Data sheets are available.

LOW-COST CLEAR-VIEW PANEL METERS

If you combine the best styling you can get in a panel meter with prices that are from $1 to $3 below current prices of "cheap" meters, you'll come up with an item that offers tremendous appeal to the engineer, hobbyist, and experimenter. But when you go on to add such extras as clip-on, noncritical mounting, good legibility, accurate readings (± 2% on d.c. and ± 3%
on a.c.) without need for recalibration whether the instrument is mounted on a ferrous or nonferrous panel, Mister, you've got yourself a meter. These are but some of the features offered by Allied Radio's Knight clear-view panel meters.

The rectangular meter types measure 4½" or 6" across, and come in a variety of ranges. You have your choice of current ranges from 0-50 µa. to 0-15 amperes, and voltage ranges starting from 0-50 volts and going up to 0-300 volts, a.c. or d.c. A sister line of square-face meters measuring 3½" or 4½" across is also available from the same manufacturer. These are a few dollars cheaper, but are also somewhat less stylish. The quality (accuracy) and movements are identical. An optical bezel that provides further sharpness, and gives added protection to the plastic meter face, is also available.

You wouldn't use any of these meters on battery chargers, or on power supply monitors—there are lots of $2 meters which are tops for this sort of thing. You'd use them wherever accuracy, good legibility, and sharp appearance are required.

Applications? Build yourself one of those new FET voltmeters (FET prices are down to around $5 now). This will give you a "VTVM" with extra-high input impedance, long battery life, and no line cord to plug in. Or how about a frequency meter, or a quality transistor tester that measures beta (gain) directly? Need more ideas? A capacitance tester, an inductance bridge, a mile-per-gallon meter, or a receiver "S" meter? Hams should consider VSWR meters and field strength meters; so should technical-minded CB'ers. These clear-view panel meters can also be used to make dandy exposure and light level meters, as well as sound level meters.

A mounting template included with each meter movement makes layout a snap. When mounting one of these meters, the best way to cut the 2½" mounting hole is with a nibbling tool or a flycutter; but a number of closely spaced ¼" drill holes, combined with the use of a file, and some patience, are all that is really needed. Unlike when working with most meter movements, you don't have to be too precise over the exact size or shape of the hole. By the way, if you want to change the scale markings to suit your own application, there's a real professional low-cost way to do it—just refer back to our February, 1965, issue and read the article on professional-looking meter faces.

The Knight "Clear-View Panel Meters" are available from Allied Radio Corp., 100 N. Western Ave., Chicago, Ill. 60680, and are described in their current catalogs. Prices start at $8.95 (for the 3½" square-face meter).

**CUSTOM UTILITY CABINETS AT $5.50**

Here's a metal utility cabinet that'll add the finished, custom appearance to that special project you want to display. Finished in two-tone grey hammertone, this Bud cabinet features smooth, rounded edges, and four "no-skid" rubber feet. Also featured are removable front and rear panels, each secured with four heavily chromed oval-head screws. The rear panel has ventilation slots.

The cabinet comes in six sizes, the smallest being 4" x 4" x 6". This size is a natural for small projects. For example, it can house a phototimer and still have room to accommodate two timing knobs and a control switch on its front panel. If you want to be real fancy, you can use oversized pointer knobs on the timer to allow you to read them in the dark, by touch. And you can mount the timer's start and bypass push buttons right on the top of the cabinet where you can get at them easily.

Still on the subject of photography, you can also build yourself a double timer. This (Continued on page 106)
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and a sergeant at arms. Our thanks to the Y.C.B.A. of Pennsylvania for making us an honorary member.

Columbia, South Carolina: Central South Carolina Citizens Radio Club. Organized in 1962, this group publishes an excellent monthly newspaper, The Carrier, compiled by a staff of four. Meetings are held on the second Friday of each month at the Davis Hotel.

Fulton, South Dakota: The Circle CB'ers. Recently organized with 19 members, this club has rented a school for monthly meetings held every second Saturday. A constitution, membership rules and bylaws have been written and approved by the present membership. They monitor channel 9.


Also reporting: In Denver, Colorado, St. Anthony's CB Emergency Group; and in Florence, Kentucky, CB Club of Kentucky. I'll CB'ing you,

—Matt, KHC2060

PARTS PROFILES

(Continued from page 70)

gives you a photoflood control center that lets you control each light independently, and get perfect shadow control and greatly prolonged bulb life. For this application you can use SCR's, TRIAC's, or just plain power diodes (the latter gives you only OFF-DIM-BRIGHT positions).

There are many other applications, but we'll mention just one more. The cabinet can house a heavy-duty SCR power control for use in your workshop. Select the type of control that has a heavy three-lead cord and automatic torque feedback to provide precise control for any 3/8" or 1/2" electric drill. You can get technical details from any SCR manual.

The utility cabinet is available from most Bud distributors, including Allied Radio, Burststein-Applebee, and Lafayette Radio. The price for the smallest cabinet (CU-463) is $5.50. Larger sizes are priced up to $10.35.