

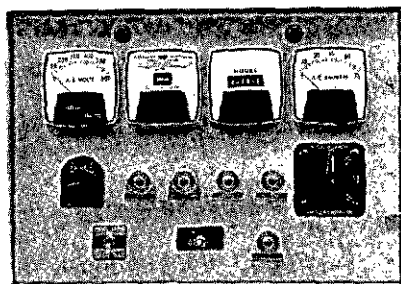
KATOLIGHT



ENGINE GENERATOR SET CONTROLS

CONSIDER KATOLIGHT CONTROLS FIRST FOR ALL STANDBY POWER APPLICATIONS

The determining factors in the purchase of automatic control systems are reliability and price. When power is needed, particularly in an emergency, you want to know that the controls are going to operate. In Katolight systems, each component is designed, built, and tested specifically for the applicable power service demanded of it insuring a uniquely designed reliable product.



**Variety in
Selection
Wall & Unit
Mounted or
Free Standing**

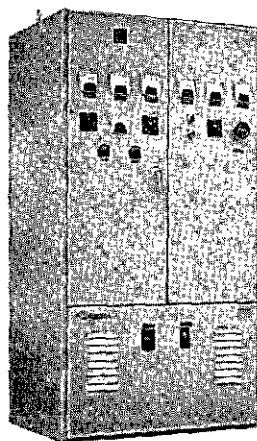
Wall mounted controls are offered in several sizes to permit remote control of Katolight engine generator sets. Internal wiring is complete for the specific control-engine generator set match.

Unit Mounted

Unit mounted control panels are practical in many engine generator sets, depending on the type of controls desired. A number of standard cabinets are available permitting both engine and generator functions to be located in one compact area.

Free Standing

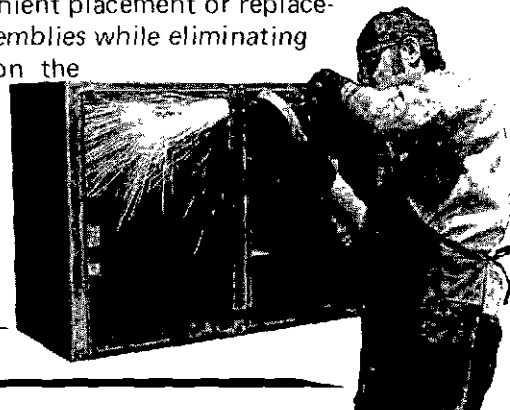
Free standing control panels in several standard sizes are available for installation where more sophisticated control is necessary. Components within the control are located and securely mounted to provide easy access and efficient operation.



Quality Construction

Katolight control cabinets meet NEMA standards. Enclosures are made of heavy 14 and 12 gauge cold rolled sheet steel reinforced and welded. Free standing cabinets have angle iron frames, both top and bottom, arc

welded to the sheet steel. Wall, base and standard unit mounted cabinet are welded construction with 14 gauge steel. Doors are 14 gauge formed steel. Hinged doors can be dust tight or drip tight. All enclosures have a separate component mounting plate mounted on 3/8" shouldered stand off studs to permit convenient placement or replacement of sub-assemblies while eliminating exterior bolts on the enclosure.



Wiring

All wires are numbered and visibly located. Sub-assemblies are labeled to permit fast traceout of all circuitry in accordance with the wiring schematic, enclosure layout drawing and instructions supplied with the system. Plastic insulating wiring channel is used wherever necessary. Plastic tie wraps are used where channeling is not possible. Flexible insulating tubes are used to protect wires which pass over door hinges.

Standard Generator Control Components

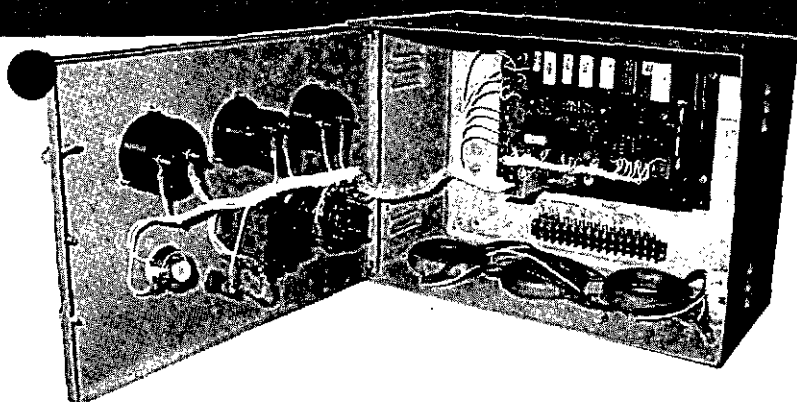
Ammeter: 3½", Voltmeter: 3½",
Frequency Meter: 3½", Phase

Selector Switch: (either combination or separate), Voltage Regulator, Voltage Adjusting Rheostat, Circuit Breaker (2 or 3 Pole), and Instrument Transformers as Required.

Optional Generator Control Equipment

Protective Relaying — Such as over and under voltage, overcurrent, ground fault, differential, over and under frequency, temperature, out of step, directional and reverse power or current, and phase sequence.

Instrumentation — Running time meter, watt-meter, watt hour meter, power factor, varmeter, synchroscope, recording instruments.



Sensing — Remote and three phase sensing.

Radio Interference Filter — In accordance with required specification.

Paralleling — Manual and automatic paralleling arrangements.

Remote Switching

Distribution Panels

Optional Engine Control Components

AUTOMATIC CONTROL — Cyclic or non cyclic cranking. Failure indication lights for: low oil pressure, high water temperature, overspeed, over crank, low coolant level. 3 position function switch (manual, off, automatic). 4 position function switch (manual, off, automatic and test).

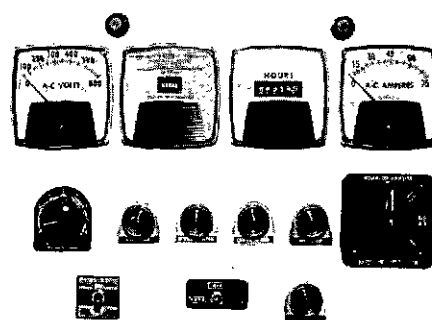
MANUAL CONTROL — Ignition switch, start push button, manual safety shutdown for: low oil, high temperature, overspeed, and low coolant.

Engine Control Accessories

Failure alarm (bell or horn) with silencing switch. Prealarm for low oil pressure and high water temperature. DC voltage auxiliary relays for remote alarm, air louver control and engine overrun delay. Low coolant light, low fuel level light, high temperature light and panel strip heater with thermostat.

Automatic Transfer Controls

The automatic transfer control keeps the load connected to the normal source, usually a utility, as long as power is adequate. If the normal source fails or drops below acceptable levels, the control starts the engine generator set to produce acceptable voltage and frequency. Katolight Automatic Transfer Controls are of high quality and capable of adequately handling the standby power system requirements. Katolight Automatic Controls range in sizes from 30 - 1200 amperes. For further information see Automatic Transfer Spec Sheet Form TS-75-R-1.



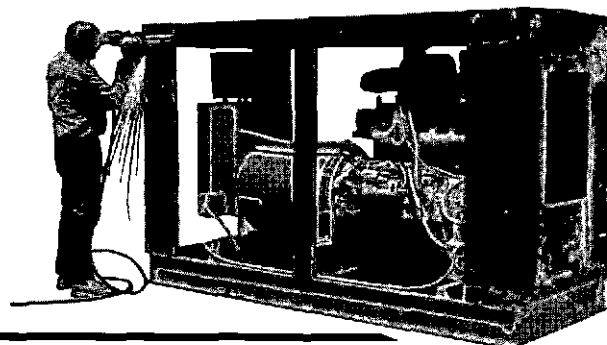
Automatic Engine Starting Controls

KLAS CONTROLS — Time and application proven, Katolight automatic relay engine controls will provide the functions and reliable performance you require.

All relays are ten (10) amp rated, standard heavy duty industrial type. Other optional accessories are available for specific units. See KLAS Technical Sheet. All controls are available with an enclosure if desired.

Two series of controls are manufactured, the non cyclic or lone shot crank (100 series) which features an adjustable ten (10) to one hundred (100) second engine cranking circuit. These utilize solid state timers. (plug in type with sockets and retaining clips.)

The second series (200) is provided with cyclic cranking, repetitive crank and rest, with adjustable crank, rest and overcrank functions. These timers are solid state, provided with (10) amp contacts, and plug in mounting with sockets and retaining clips.



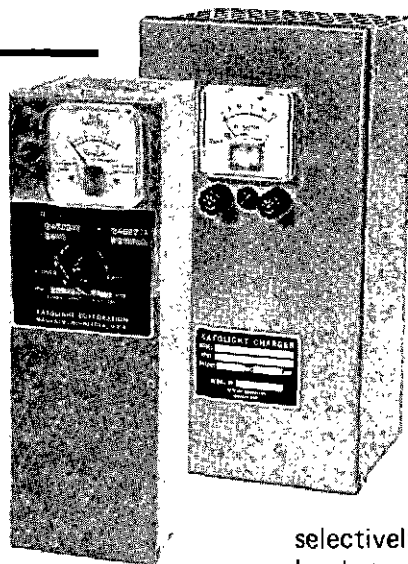
Totally Enclosed Housing

These housings provide for complete efficient housing of all equipment and controls. Safe isolation of all components and functional good looks combine with easy access for any maintenance or service to make this a most functional type of installation. Both indoor and outdoor types of enclosures are available.

OTHER SPECIAL CONTROL EQUIPMENT BY KATOLIGHT

Battery Chargers

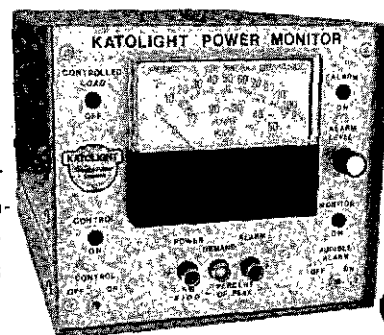
Battery chargers are used to charge and maintain starting batteries on diesel, gasoline, and/or natural gas engines. The users and manufacturers of standby engine generator sets agree that reliable starting of the engine generator is completely dependent upon a properly maintained battery. Katolight battery chargers have been specifically designed for the purpose of maintaining engine starting batteries in a properly charged condition at all times. Katolight battery chargers are available for trickle rate charge, or for fully automatic charging. Output voltages are 12 or 24 volts DC.



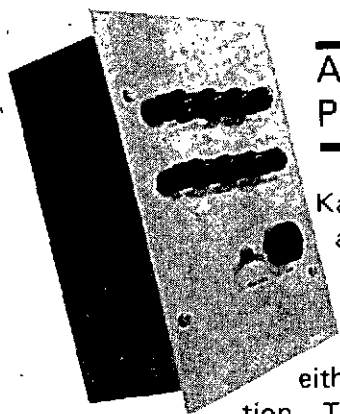
Power Monitor

The Katolight Power Monitor is used to monitor and control peak electrical power loading and avoid unnecessary increases in electrical bills due to excessive peak demands. Electrical power usage is continuously monitored and audible and visual alarms are activated when the power being used exceeds a preset limit just under the previously established demand billing peak. The facilities manager then has the option of

selectively turning off loads to avoid setting a new demand peak or activate load transfer equipment. The control output of the monitor may also be used to automatically shut down one set of non-critical loads until the overall demand drops to a safe level.



Annunciator Panels



Katolight annunciator panels are designed for either surface or flush mounting. The enclosure has knock-outs on top, bottom, or either side for ease of installation. The panel has 8 push-to-test lights for convenient checking to see if bulb is burned out. The annunciator panels are used in conjunction with Katolight's automatic engine starting controls. The panel face is stainless steel. Units meet NFPA requirements for hospital applications.

Katolight, The Company

For more than 25 years Katolight Corporation, located in Mankato Minnesota, has played an important role in the development and sale of engine-generator sets to the industry. Katolight's product scope includes portable engine-generator sets - 2.5 to 7.5 KW, air cooled gasoline engine-generator sets - 10 - 25 KW air cooled diesel engine sets - 4.5 - 32 and water cooled diesel engine sets 18 - 1000 KW. When requested, a full line of controls are manufactured and supplied with Katolight engine-generators sets. Call today for further information about Katolight Corporation engine generator set controls.

KATOLIGHT CORPORATION

3201 Third Avenue Box 3229
Mankato, MN 56001
PH. (507) 625-7973 Telex: 29-0787

