

The Sigma Intelligent Hand Held Terminal (IHT) provides full load control and three-phase instrumentation on any Froment Sigma-equipped load bank.

Hardware

- A purpose designed microprocessor-based control system.
- The IHT is housed in an industrial polycarbonate / polyamide enclosure with pvc side hand grips providing IP65 protection.
- A custom-designed membrane keyboard and back-lit graphic LCD screen provides the user interface.
- The IHT can be operated up to 1 kilometre from any Sigma load bank.
- Simple plug/socket connections allow a single controller to operate multiple load banks of any size and type.

Load Control

- Provides a load step resolution of down to 0.1 kW/kVA.
- Will control any combination of Resistive / Inductive / Capacitive load banks.
- Fully adjustable leading and lagging power factors from 0.00 to 1.00.
- In-built help provides assistance for both the first-time user and experienced operator.
- Straightforward testing of different supplies with automatic detection of supply voltage, frequency, phase and phase rotation.

- The 'Supply on Test' display 'page' allows the supply details to be set and verified at any time. In addition to the supply ratings, the rated line current and kilowatts are calculated.
- Manual load control by selecting either kW or % load or kVA and power factor.
- Automatic load control provides up to sixteen timed load steps including manual override and cyclic testing.



- The in-built test editor allows easy setup of the load steps including % load, power factor and time.
- Comprehensive overload and stall protection is provided, based on the rating of the supply on test.
- A load correction facility compensates for any voltage drop on the supply.

Instrumentation

All instrumentation measurements are made using high accuracy voltage and current transformers located within the load bank. This information is processed digitally, using high-speed sampling of the raw data; this provides full three-phase true rms measurements with high update rates.

- Three instrumentation display 'pages' show all the main electrical parameters.
- The displays are designed to simplify the setup and adjustment of Generator and UPS supplies.
- A large display of Voltage and Frequency to assist in initial setup.
- When full-load testing, one 'page' shows all the true rms three-phase measurements of Voltage (V), Frequency (Hz), Current (A), Power (both kW & kVA) & Power Factor (Cos ϕ).
- For transient-response testing, the voltage and frequency of the last load change are captured and displayed on the dynamic graph including maximum and minimum data.





- The status line includes the elapsed time since the last load was applied.
- Load selection is displayed in a 'popup' window over the instrumentation while the load is being changed.

Additional Benefits

- The load bank is protected against over-voltage.
- The load bank cooling fan automatically starts and stops as required.
- Load control is based on the entered 'Supply on Test' capacity. This allows the controller to protect the supply from accidental overloading and gives the operator the choice of applying load either in % load or in kW and kVA.
- The fully integrated printout facility allows data to be recorded.
- A 'modbus' interface provides full load control and instrumentation using the RS232 port.
- Automatic test and system options are retained permanently.
- Multi language support includes English, French, German, Spanish and Italian.



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