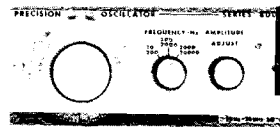


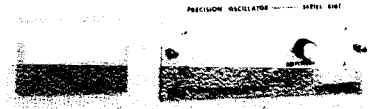
behlman
division

T SERIES SOLID STATE OSCILLATORS

- INTEGRATED CIRCUIT CONSTRUCTION
- ALL SILICON SOLID STATE
- FIT ALL "T" SERIES INVERTRONS
- FIXED AND VARIABLE FREQUENCIES
- SINGLE- AND MULTI-PHASE OUTPUT
- ULTRA-STABLE OUTPUT AMPLITUDE
- LOW DISTORTION
- FREQUENCIES ACCURATE UP TO 0.0001%
- SYSTEM-SERVO CAPABILITY
- "OPEN DELTA" THREE-PHASE MODELS



MODEL 800T-20/20K-1-3



MODEL 810T-400-1-3
IN MODEL 501T INVERTRON®

The new T-Series Solid State Plug-in Oscillators have been created to complement the Behlman Division T-Series Solid State Invertrons. Together these versatile oscillators and Invertrons provide a degree of flexibility and performance previously unobtainable in the AC power field.

Three basic families of oscillators are available. The 800T Series are continuously variable models and include both multi-band wide-range units and single-band narrow-range units. The 810T Series are fixed-frequency models for general usage and include the new "System Servo" Models which provide overall oscillator-Invertron stability of 0.01%. The 820T Series are fixed frequency crystal-controlled models featuring frequency accuracies of 0.01% and 0.0001%.

Multi-phase Models: Each family includes single-phase, two-phase and three-phase models. Two-phase and three-phase models may also be used to drive one single-phase source if desired.

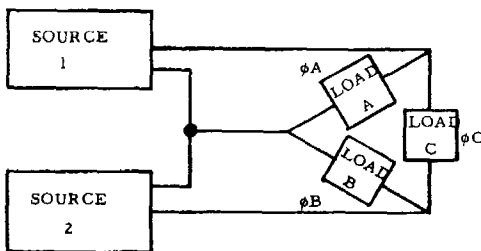


FIGURE 1.

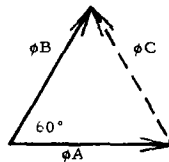


FIGURE 2

Open Delta Models. Each family also includes "Open Delta" Models. In the Open Delta Configuration two power sources of equal VA rating are driven by a single "Open Delta" three-phase oscillator. The oscillator provides two equal amplitude drive voltages at a 60° phase angle. The power sources are loaded as in Fig. 1. As seen in the vector diagram in Fig. 2, the third load Phase C is necessarily at a 60° angle with each of the other two loads, thus forming a true delta.

System Servo Models: The 810T Series employ highly sophisticated circuits which provide the oscillator with an amplitude stability of 0.01%. Through the use of a precision coupling transformer in the plug-in oscillator module, the output of the power source may be referenced to the oscillator amplitude. In this way the overall system amplitude is stabilized to 0.01%. The output amplitude may be specified as fixed (for example, 115 VRMS ±0.1%) or variable over moderate limits (for example, 105/135 VRMS). In the latter case a precision potentiometer sets the exact voltage desired. This voltage will then be maintained to within ±0.01%.

Amplitude Control: Each T-Series Power Source contains a high resolution amplitude control which permits the amplitude of each phase of a multi-phase system to be set individually. In addition, each two-phase and three-phase oscillator contains an amplitude control. Simultaneous variation of the amplitude of each phase may then be obtained by this control on the oscillator.

External Synchronization: The 800T and 810T Series Oscillators may be synchronized to an external reference frequency. The synchronization signal is connected to a terminal on the Power Source and is routed to the oscillator through the mating plug-in connector.

behlman division

CALIFORNIA INSTRUMENTS COMPANY

a division of AIKEN INDUSTRIES, INC

3511 Midway Drive / San Diego, California 92110 714-224-3241 Cable: CALICO SANDIEGO

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T - SERIES OSCILLATOR SPECIFICATIONS

800T VARIABLE FREQUENCY MODELS

Frequency Range	Frequency Accuracy at 25° C	Single Phase		Two Phase		Three Phase	
		Model	Price	Model	Price	Model	Price
20 to 20KHz in three bands	± 1.0%	800T-20/20K-1-1	\$395	800T-20/20K-1-2	\$475	800T-20/20K-1-3 800T-20/20K-1-3D	\$475 475
45 to 75Hz in one band	± 0.25%	800T-45/75-.25-1	355	800T-45/75-.25-2	425	800T-45/75-.25-3 800T-45/75-.25-3D	425 425
300 to 500Hz in one band	± 0.25%	800T-300/500-.25-1	355	800T-300/500-.25-2	425	800T-300/500-.25-3 800T-300/500-.25-3D	425 425

SPECIFICATIONS COMMON TO ALL 800T VARIABLE FREQUENCY OSCILLATORS

Amplitude:

Single-phase oscillators: 5V RMS
± 1% over frequency range.

Multi-phase oscillators: Continuously variable from 0 to greater than 5V RMS with front panel amplitude control.

Amplitude Stability:

± 0.25% ± 0.02% /°C maximum.
(For 24 hours at 25°C).

Frequency Response: ± 1.0% over full frequency range.

Frequency Temperature Coefficient:
± 0.02 per cent /°C maximum.

External Synchronization: External Frequency must be within ± 0.5% of oscillator frequency. Amplitude 5V RMS.

Phase Relationship:

2-phase oscillators 90° ± 2° .
3-phase oscillators 120° ± 2° .
3-phase open-delta oscillators 60° ± 2° .

810T FIXED FREQUENCY GENERAL PURPOSE MODELS

Frequency Range	Frequency Accuracy at 25° C	Single Phase		Two Phase		Three Phase	
		Model	Price	Model	Price	Model	Price
Any Single Freq. from 45Hz to 10KHz	± 0.1%	810T-Freq.-1-1	\$295	810T-Freq.-1-2	\$375	810T-Freq.-1-3 810T-Freq.-1-3D	\$375 375
Any Single Freq. from 45Hz to 10KHz	± 0.1%	810T-Freq.-1-1-115	345	System - Servo oscillator with servo feedback set to maintain power source output at 115 VAC ± 0.1%. Provides 0.01% line and load regulation from power source. Available for single phase only.			
Any Single Freq. from 45Hz to 10KHz	± 0.1%	810T-Freq.-1-1-105/135	395	System - Servo oscillator with servo feedback adjustable to produce power source output of 105 to 135 VAC. Provides 0.01% line and load regulation from power source. Available for single phase only.			

SPECIFICATIONS COMMON TO ALL 810T SERIES FIXED FREQUENCY OSCILLATORS

Amplitude: Single-phase oscillators: 5.000 ± 0.005 V RMS.

Multi-phase oscillators: Continuously variable from 0 to greater than 5V RMS with front panel amplitude control.

Amplitude Stability:

± 0.01% ± 0.0025% /°C for single phase models.
± 0.02% ± 0.005% /°C for two and three phase models.
(For 24 hours at 25°C).

Frequency Temperature Coefficient:
± 0.01 per cent /°C maximum.

External Synchronization: External Frequency must be within ± 0.5% of oscillator frequency. Amplitude 5 V RMS.

Phase Relationship:

2-phase oscillators 90° ± 0.25° .
3-phase oscillators 120° ± 0.25° .
3-phase open-delta oscillators 60° ± 0.25° .

820T FIXED FREQUENCY CRYSTAL CONTROLLED MODELS

Frequency Range	Frequency Accuracy at 25° C	Single Phase		Two Phase		Three Phase	
		Model	Price	Model	Price	Model	Price
400Hz	± 0.01% ± 0.0001%	820T-400-.01-1	\$395	820T-400-.01-2	\$445	820T-400-.01-3	\$445
		820T-400-.0001-1	495	820T-400-.0001-2	545	820T-400-.0001-3	545
Any single Freq. from 45Hz to 10KHz	± 0.01%	820T-Freq-.01-1	445	820T-Freq-.01-2	495	820T-Freq-.01-3	495
						820T-Freq-.01-3D	545
Any Single Freq. from 45Hz to 10KHz	± 0.0001%	820T-Freq-.0001-1	595	820T-Freq-.0001-2	645	820T-Freq-.0001-3	645
						820T-Freq-.0001-3D	645

SPECIFICATIONS COMMON TO ALL 820T SERIES FIXED FREQUENCY OSCILLATORS - CRYSTAL CONTROLLED

Amplitude: Single-phase oscillators: 5.000 V RMS minimum.

Multi-phase oscillators: Continuously variable from 0 to greater than 5V RMS with front panel amplitude control.

Amplitude Stability:

± 0.25% ± 0.02% per °C
(for 24 hours at 25°C).

Frequency Temperature Coefficient:

(average from 0 to 50° C).
0.01% Models: 2ppm/° C max.
0.0001% Models: 0.1ppm/° C max.

Phase Relationship:

2-phase oscillators 90° ± 2° .
3-phase oscillators 120° ± 2° .
3-phase open-delta oscillators 60° ± 2° .

Crystal oscillators with up to three output frequencies or with 0.01% amplitude stability are available on special order. Consult factory.

SPECIFICATIONS COMMON TO ALL OSCILLATORS

Total Harmonic Distortion: 0.1% max. (45 to 5000 Hz).
0.25% max. (5 KHz to 20 KHz).

Operating Temperature Range: 0 to 50° C.
Front Panel Finish: Grey 26440, Fed Std 595
Physical Size: 3½" H x 8" W x 7" D for mounting in T-Series Invertrons.

DC Power: All DC power obtained from associated Invertron.

HOW OSCILLATORS ARE SPECIFIED:

810T - 400 - .1 - 1 - 115
Family Frequency Frequency *No. of Power Source
Fixed-freq. (or frequency Accuracy phases output voltage
(gen. purpose) range) (Servo feedback oscillators only)

* All three-phase oscillators are for wye configuration unless Model No. ends in "D", which signifies Open Delta Configuration

In addition to the standard oscillators listed here, many modified versions for special purposes can be provided. Please contact our Marketing Department for further information.

All specifications apply when unit tested in accordance with Behlman Standard test procedures

TERMS: Net 30 days

DELIVERY: Within 30 days ARO

F.O.B.: San Diego, Calif.

Specification and prices subject to change without notice unless brochure is submitted as part of a written quotation or proposal in which case the specification and prices remain firm for the valid period of the quotation or proposal.

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