

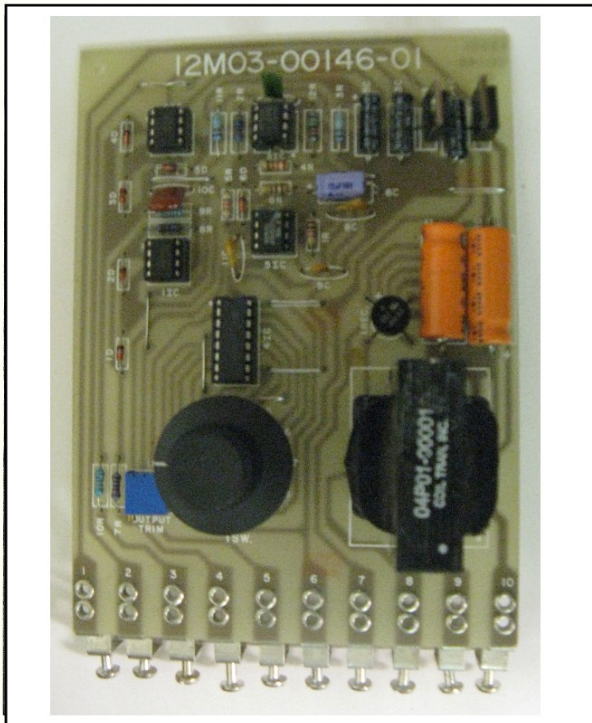


**GEMINI
CONTROLS LLC**

SERIES 200 SOLID STATE CONTROLS

MODEL 259 VOLTAGE TO FREQUENCY CONVERTER PRECISION OSCILLATOR

PART NUMBER 12M03-00146



FEATURES

- COMPACT, SELF-CONTAINED
- MODERATELY PRICED
- WIDE RANGE OF ADJUSTMENT
- COMPATIBLE WITH PACKAGED DRIVES OF MOST MANUFACTURERS
- POSITIVE, FRONT ACCESS CONNECTION
- EASILY REMOVED, REPAIRED OR REPLACED
- CONSERVATIVELY RATED FOR RELIABILITY
- DETAILED TECHNICAL MANUAL

TYPICAL APPLICATIONS

- ADJUSTABLE FREQUENCY REFERENCE
- REMOTE TIMING ADJUSTMENT

OPTIONS

- USE WITH REFLEX MODEL 210 MOP FOR REMOTE OR EXTENDED TIMING ADJUSTMENT
- COMPATIBLE WITH OTHER SERIES 200 CONTROLS (See Bulletin SB200)

GENERAL DESCRIPTION

The MODEL 259 VOLTAGE TO FREQUENCY CONVERTER is a circuit that converts a DC input voltage to a train of pulses whose frequency is determined by the magnitude of the input voltage. A 12-position switch and trim potentiometer provide on-board scaling for maximum output frequencies from 6 Hz to 60K Hz.

It can be used as a precision oscillator to provide an adjustable frequency reference to digital drives, or for remote control or extended timing ranges on devices such as the REFLEX® Model 210 Solid State Motor Operated Potentiometer.

Advanced circuit design insures a high level of accuracy, noise immunity and reliability in industrial environments. A field-proven mounting arrangement provides reliable connection, but allows easy removal without disturbing permanent wiring. Front access and detailed technical manual makes installation and service easy.

The MODEL 259 VOLTAGE TO FREQUENCY CONVERTER can be used with other REFLEX® SERIES 200 CONTROL MODULES and POWER CONVERTERS for smooth, stepless control in many applications. It is compatible with equipment of other manufacturers.

SPECIFICATIONS

SUPPLY: 120V AC $\pm 10\%$
50/60 Hz, Single Phase

AMBIENT TEMPERATURE: 0° to 40°C
(32°-104°F) 50°C in Cabinet

INPUT: 0 to 10 volts DC positive or negative

OUTPUT: Pulses of 15V magnitude, 4 to 7 microseconds long.
Maximum load of 150mA source; 50mA sink.

Frequencies corresponding to 10V DC input: 6 Hz to 60 KHz with 12 ranges selected by a 12-position switch. Any given range has approximately 3 to 1 adjustment with OUTPUT TRIM potentiometer.

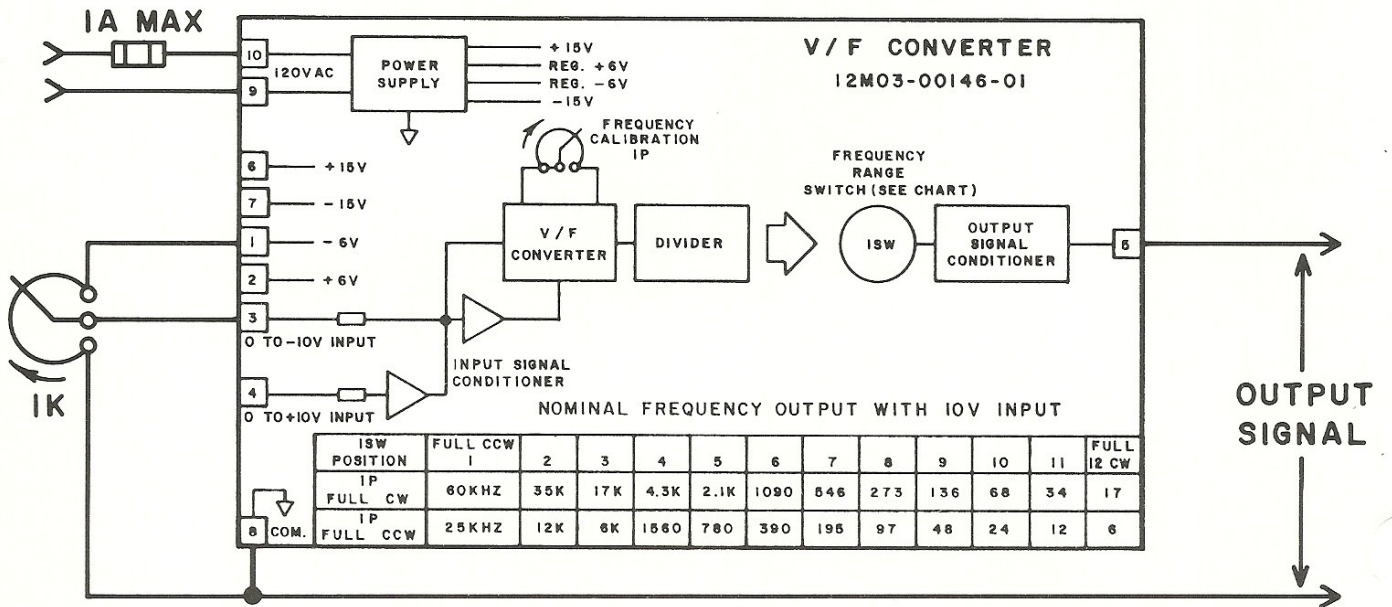
LINEARITY: Within 0.1% of full scale

DRIFT: 100 PPM per degree C maximum from 0° to 50°C

ADJUSTMENTS: Frequency Calibration, Range Select Switch



MODEL 259 VOLTAGE TO FREQUENCY CONVERTER



APPLICATION NOTES
MODEL 259 VOLTAGE TO FREQUENCY CONVERTER
(PRECISION OSCILLATOR)
PART NUMBER 12M03-00146-01

1. The V/F Converter can be used as a precision Voltage Controlled Oscillator in applications requiring a Phase-locked loop regulator.
2. It may be used with the REFLEX Model 210 MOP to provide extended acceleration and deceleration times and where extremely accurate ramp times or remote adjustment of the ramp rate is required. The output terminal 5 is connected directly to the Clock In, terminal 14 of the MOP.
3. It may also be used with the REFLEX Model 210 MOP to construct a wide-range programmed-torque center-wind drive. (See Simplified Schematic Drawing AN-0123).
4. It may be used as a frequency reference for digital speed regulators. While accuracy is not as good as a crystal-based reference, the cost and adjustability make it useful in cases where digital speed control is important for load regulation or where the speed will be adjusted frequently. Use with the REFLEX Model 206 Precision Reference is recommended.



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