

## SPECIFICATIONS, Model 432 digital control lock in

### Input Stage

Input Signal Modes: Single Ended or Fully Differential, AC or DC coupled.

Input Gain: x1, x3.3, x10, x33, x100, x330, x1000

Analogue Connections: SMB connectors

Input Impedance:  $10^{12}$  Ohms || 1nF, dc coupled

Maximum Inputs:  $\pm 12$ V DC before saturation occurs.

Gain Accuracy: 1%

Gain Stability: 200ppm/ $^{\circ}$ C

Frequency: 10Hz to 100kHz

### Output Stage

Output Gain: x1, x10, x100, x1000 (Equivalent to Dynamic Reserves of 0dB, 20dB, 40dB and 80dB respectively)

Time Constant Settings: 100 $\mu$ s, 330 $\mu$ s, 1ms, 3.3ms, 10ms, 33ms, 100ms, 330ms, 1s, 3.3s, 10s, 33s

Output Offset Trim:  $\pm 1$ V in 256 steps

### Reference Stage

Frequency: 10Hz to 100kHz

Signal Types: Standard TTL or CMOS with mark to space ratio from 1:10 to 10:1. Rising edges only used by the instrument. Sine, triangular, square waves, etc. with amplitudes from 200mV to 10V rms.

Fine Phase Adjust:  $0^{\circ}$  to  $150^{\circ}$  in 256 steps

Coarse Phase Adjust:  $0^{\circ}$ ,  $90^{\circ}$ ,  $180^{\circ}$  &  $270^{\circ}$  @ reference frequency

$0^{\circ}$ ,  $90^{\circ}$ ,  $180^{\circ}$  &  $270^{\circ}$  @ 2 x reference frequency

Bypass: Both the coarse and fine phase circuitry can be bypassed using jumpers.

### General

Size: 100x160mm - Standard Eurocard

Digital Connector: 64 pin type C DIN41612

30 pin IDC connector

Power: 55mA @ +15V, 0V, 40mA @ -15V

The device will also operate from  $\pm 12$ V but with reduced headroom

Computer Interface: 8 bit interface with Chip Select and Write signals.

All settings are undefined at power up.

