

540 & 540/20 Synchro/Resolver Bridge



- Resolution to 0.0001°
- 2 arc-second accuracy (NIST traceable)
- Full 0-360° rotation with direct angular readout
- Isolated inputs and outputs
- 1:1 or 9:1 Transformer ratio
- Single set of input terminals for synchro and resolver
- Constant error voltage gradient
- High input impedance
- Size: 19" W x 5.25" H x 15" D (481mm x 133mm x 380mm)

GENERAL

The Model 540 Synchro/Resolver Bridge provides the user with the ability to measure the electrical shaft position of either synchros or resolvers as components or as transducers within an operating system. Its unique bridge circuit design provides a constant null voltage gradient over the entire angular range. When the model 540 input is connected to the standard line to line levels of 11.8, 26, 90, 115 V_{rms} , it provides a null output in either the synchro or the resolver mode. This instrument is designed to provide 2 arc-seconds of accuracy at the operating frequency of 400 Hz and may be used with reduced accuracy up to 5 kHz. Accuracy is maintained for all angles over the range of 0 to 359.9999 degrees with a resolution of 0.0001°.

SPECIFICATIONS: MODEL 540

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|------------------------------|---|
| Accuracy | 2 seconds @ 400 Hz 4 seconds @ 1 kHz 15 seconds @ 2 kHz 60 seconds @ 5 kHz |
| Resolution | 0.0001° |
| F Rating | 0.8F or 150 V_{rms} max. |
| Modes | Synchro or Resolver |
| Transformation Ratio | 1:1 |
| Null Voltage Gradient | 4.85 x E_{L-L} $\mu V/arc$ sec. |
| Input Z @ 400 Hz | 750 kW in Resolver 500 kW in Synchro |
| Size | 3.5 x 19 x 15.5 in (88 x 475 x 388 mm) |
| Weight | 30 lbs. (14 kgs.) |

SPECIFICATIONS: MODEL 540/20

Mode Switch at 60 Hz Position

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|------------------------------|--|
| Accuracy | 10 arc seconds (55 Hz - 200 Hz) 20 arc seconds (40 Hz - 400 Hz) |
| Input Z | 1 MW |
| F Rating | 1.8F or 170 V _{rms} max. |
| Mode | Synchro |
| Transformation Ratio | 10:1 Stepdown |
| Null Voltage Gradient | 0.485 x E _{L-L} μV/arc sec. |

Mode Switch at 400 Hz Position

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|------------------------------|---|
| Accuracy | 10 arc seconds (200 Hz - 600 Hz) 20 arc seconds (100 Hz - 1 kHz) |
| Input Z | 1 MW |
| F Rating | 1.8F or 170 V _{rms} max. |
| Mode | Synchro or Resolver (switch selectable) |
| Transformation Ratio | 10:1 Stepdown |
| Null Voltage Gradient | 0.485 x E _{L-L} μV/arc sec. |

Mode Switch at 10 kHz Position

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|------------------------------|---|
| Accuracy | 10 arc seconds (9 kHz - 11 kHz) 20 arc seconds (11 kHz - 12 kHz) |
| Input Z | 50 kW |
| F Rating | 0.02F or 170 V _{rms} max. |
| Mode | Resolver |
| Resolution | 0.001° |
| Null Voltage Gradient | 0.485 x E _{L-L} μV/arc sec. ±1% |
| Size | 5.25" x 19" x 15" (132mm x 475mm x 375 mm) |
| Weight | 50 lbs. (23 kg) |

Note: Accuracy is not warranted for non-standard inputs or outputs. The user must perform a calibration for any non-standard operation to determine accuracy.