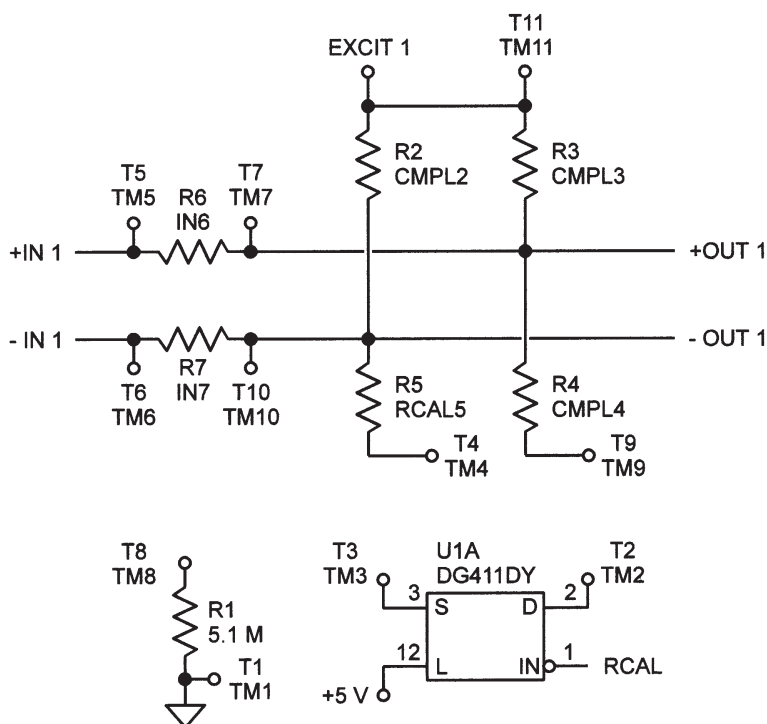


Technical Bulletin

MSC1000-037 Input Configuration Module Airborne Data Acquisition Products



DESCRIPTION

The MSC1000-037 module was designed to provide the front-end conditioning for the following signal modules.

- MSC1000-029 Analog Multiplexer Module
- MSC1000-030 Analog Multiplexer Module
- MSC1000-034 Signal Conditioning Module with DSP
- MSC1000-034-02 Signal Conditioning Module with DSP
- MSC1000-040 Smart Power Bus Monitor

POSSIBLE CONFIGURATIONS

- Half Bridge completion with RCAL
- Quarter Bridge completion with RCAL
- Bias current path to ground
- Differential AC coupled input
- Differential input filters
- Input overvoltage protection
- Differential attenuation
- Isotron piezoelectric accelerometer excitation

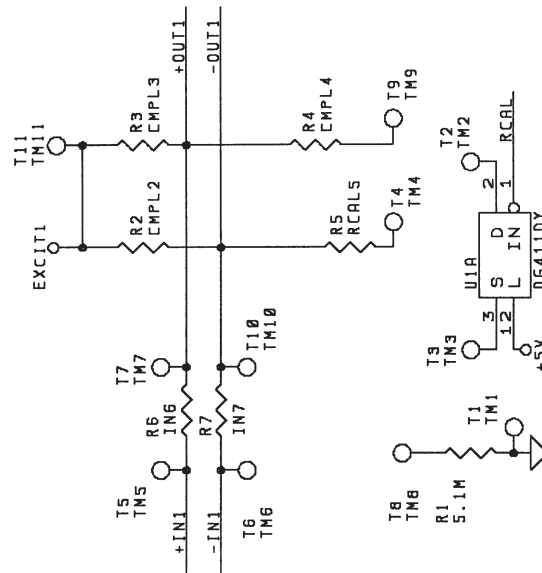
The MSC1000-037 is a field configurable module. Components may be mounted on the board by the user to provide for custom circuitry. A cable is included with the module to connect the -037 output signals to another signal conditioning module.



communications

CONFIGURATIONS:

1. HALF BRIDGE COMPLETION (ACTIVE R'S BETWEEN EXCIT, -IN, AND GND)
INSTALL CMLP3 AND CMLP4.
JUMPER IN7.
JUMPER TM1 TO TM9.
INSTALL RCALS.
JUMPER TM3 TO TM4.
JUMPER TM1 TO TM2 FOR POSITIVE GOING RCAL DEFLECTION . . .
TM2 TO TM1 FOR NEGATIVE GOING DEFLECTION . . .
2. QUARTER BRIDGE COMPLETION (ACTIVE R BETWEEN -IN AND GND)
INSTALL CMLP2, CMLP3, AND CMLP4.
JUMPER IN7.
JUMPER TM1 TO TM9.
INSTALL RCALS.
JUMPER TM3 TO TM4.
3. BIAS CURRENT PATH TO GROUND
INSTALL CMLP4 AND RCALS WITH 1M OHMS.
JUMPER IN6 AND IN7.
JUMPER TM4 TO TM8 TO TM9.
4. DIFFERENTIAL AC COUPLED SIGNAL
INSTALL IN6 AND IN7 WITH COUPLING CAPACITORS.
INSTALL CMLP4 AND RCALS WITH SHUNT RESISTORS.
JUMPER TM4 TO TM8 TO TM9.
5. DIFFERENTIAL INPUT FILTERING
INSTALL IN6 AND IN7 AS SERIES RESISTORS.
JUMPER TM4 TO TM8 TO TM9.
6. INCREASED OVERVOLTAGE PROTECTION (INCLUDING POWER DOWN)
INSTALL IN6 AND IN7 AS 200K OHMS RESISTORS.
7. DIFFERENTIAL ATTENUATION
INSTALL IN6 AND IN7.
INSTALL CMLP4 AND RCALS AS SHUNT RESISTORS.
JUMPER TM4 TO TM8 TO TM9.
8. ISOTRON PIEZO ACCELEROMETER
INSTALL CMLP3 AS CURRENT REGULATOR DIODE.
INSTALL CMLP4 AS SHUNT RESISTOR.
JUMPER IN7.
JUMPER TM1 TO TM9 TO TM10.
JUMPER EXCIT1 THRU EXCIT4 AS +28VX.



NOTES:

1. 1 CHANNEL OF 16 SHOWN.
2. ALL +IN AND -IN SIGNALS (FROM TRANSDUCERS) ENTER MODULE THROUGH J2, MOM37P, MOM37S.
3. ALL +OUT AND -OUT SIGNALS (TO SIGNAL CONDITIONER) ENTER MODULE THROUGH J3, MOM37S.
4. CHANNELS 1 THRU 4 SHARE EXCIT1.
5. CHANNELS 5 THRU 8 SHARE EXCIT2.
6. CHANNELS 9 THRU 12 SHARE EXCIT3.
7. CHANNELS 13 THRU 16 SHARE EXCIT4.
8. EXCIT1, EXCIT2, EXCIT3, EXCIT4, AND RCAL ENTER MODULE THRU J3.
9. THIS MODULE IS DELIVERED WITH A CABLE TO INTERFACE WITH A SIGNAL CONDITIONER.
10. TYPE 1 CABLE FOR MSC1000-034, MSC1000-034-02, OR MSC1000-034-03.
11. TYPE 2 CABLE FOR MSC1000-029, OR MSC1000-029-02.
12. THIS MODULE IS DELIVERED UNCOVERED TO PROVIDE FIELD ACCESS TO COMPONENTS.

