

# ISOLATED RECEIVER OPTION PCB

## 46S02371-0110    SCHEMATIC 45S02371-0110

**NOTE**

This option PCB is also used in custom designed Lancer I Variable Frequency Drives. For those applications, disregard the INSTALLATION section of this instruction sheet.

**DESCRIPTION**

This option is one of a series available for Louis Allis drives. It consists of components necessary for providing a 0 to  $\pm 10$  VDC output rated at 4mA which is interfaced via jumpers with one of the following signals on the 40 pin data bus:

1. Differential Follower Input
2. Follower Output
3. Speed Reference
4. Current Reference
5. LAC Input

Selectable voltage and current jumpers enable the circuit to provide the rated output for one of the following differential input signal ranges:

- |              |            |
|--------------|------------|
| 1. 0-10 VDC  | 5. 1-5mA   |
| 2. 0-40 VDC  | 6. 2-10mA  |
| 3. 0-100 VDC | 7. 4-20mA  |
| 4. 0-200 VDC | 8. 10-50mA |

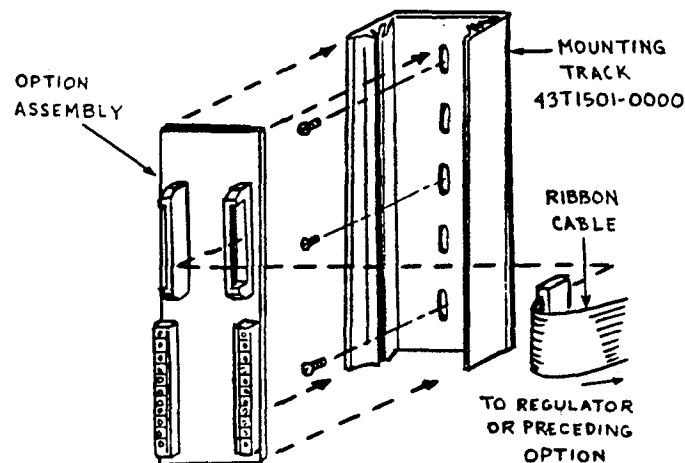


Figure 1.

<b>CHANGE RECORD</b>		4	STD-2666	REV. 2-3-87		DWG. NO. 02Y00025-0067
1	STD-1385	1/13/82				SHEET 1 OF 4
2	STD-1430	3/4/82				EFF. 5/5/82 (L)
3	STD-1629	10/26/82				

## INSTALLATION

### WARNING

REMOVE ALL INPUT POWER TO THE DRIVE BEFORE INSTALLING OPTION COMPONENTS.

See Figure 1. Install the option in the following manner:

1. Install PVC mounting track (L.A. part no. 43T1501-0000) to panel where option is to be mounted, using appropriate hardware.
2. Install option assembly by pressing firmly into mounting track.
3. Using 40 conductor ribbon, fabricate and install a double-ended ribbon cable of sufficient length to fit from 12CONN on the right side of the option to 12CONN on the Main PCB in the regulator power cube, or to 12CONN on the left side of a previously installed option.

Cable 12CONN provides the power and signal interface between this option and the Controller 40 pin data bus.

### INTERCONNECTION

The isolated receiver requires that an external DC voltage or current be applied.

1. If this option is to be used as a voltage follower, a jumper must be installed from 1TB (11) to 1TB (12). The following table indicates which additional jumpers are required for a desired differential input voltage range.

DIFFERENTIAL INPUT VOLTAGE AT 1TB (2) (+) and 1TB (1) (-)	JUMPERS REQUIRED
0 to 10 VDC	1TB (3) to 1TB (6) 1TB (7) to 1TB (10)
0 to 40 VDC	1TB (4) to 1TB (6) 1TB (8) to 1TB (10)
0 to 100 VDC	1TB (1) to 1TB (5) 1TB (2) to 1TB (9)
0 to 200 VDC	1TB (1) to 1TB (4) 1TB (2) to 1TB (8)

2. If this option is to be used as a current follower, the following table indicates the jumpers required for a desired differential input current range.

DIFFERENTIAL INPUT CURRENT AT 1TB (11) (+) and 1TB (17) (-)	JUMPERS REQUIRED
1 to 5mA	1TB (11) to 1TB (13)
2 to 10mA	1TB (11) to 1TB (14)
4 to 20mA	1TB (11) to 1TB (15)
10 to 50mA	1TB (11) to 1TB (13) 1TB (13) to 1TB (14) 1TB (14) to 1TB (15) 1TB (15) to 1TB (16)

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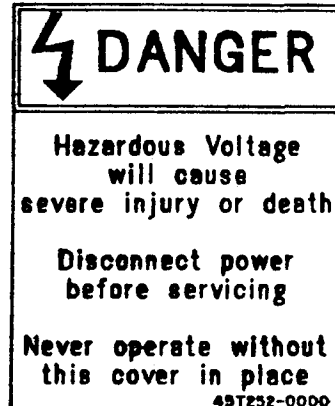
3. Install jumpers as shown in table below to select one of the following functions for interfacing with the 40 pin data bus.

FUNCTION	JUMPERS INSTALLED
Differential * Follower Input	2TB (5) to 2TB (8) 2TB (3) to 2TB (7)
LAC Input	2TB (8) to 2TB (6)
Follower Output	2TB (8) to 2TB (4)
Speed Reference	2TB (2) to 2TB (8)
Current Reference	2TB (1) to 2TB (8)

\* 1SS must be OPEN for Differential Follower Input only.

4. The +15V power needed for this option can be provided from the regulator or from an external source. With 2SS and 3SS closed, +15V from the regulator is applied to the option via 12CONN. With 2SS and 3SS both open, the option is isolated from regulator power and external +15V must be connected at 2TB (10) (+) and 2TB (9) (common).

## ADJUSTMENTS



A PROTECTIVE COVER, WITH THE ABOVE WARNING, IS PART OF THIS ASSEMBLY. MAKE CERTAIN THIS COVER IS IN PLACE BEFORE APPLYING POWER.

After installing the option, apply power to the drive and remove jumpers from 2TB. Follow the steps below for offset and span calibration.

### A. For Voltage Follower:

1. Set up for a differential 0-10 VDC input.
2. With 0 VDC input, adjust the OFFSET pot (2RH) for 0.00 VDC at the output, 2TB (7) (+) and 2TB (8) (-).
3. Apply 1.00 VDC input between 1TB (2) (+) and 1TB (1) (-) and adjust the SPAN pot (1RH) for 1.00 VDC at the output.

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B. For Current Follower:

1. Set up for a differential 1-5mA input.
2. Apply 1.00mA between 1TB (11) (+) and 1TB (17) (-). Adjust the OFFSET pot (2RH) for 0.00 VDC at the output.
3. Increase the input current to 5.00mA. Adjust the SPAN pot (1RH) for 10.00 VDC at the output.

If the results in "A" or "B" above cannot be obtained, perform the option troubleshooting procedure.

After completing adjustments, reinstall jumpers on 2TB.

TROUBLESHOOTING

If other options or modifications have been installed, troubleshoot them thoroughly before discarding this option as faulty.

1. Check that all interconnections were made correctly.

2. Measure +15 VDC  $\pm 5\%$  at 3TP with respect to 4TP (-). If not correct, replace option PCB.

OPTION RECORDS

After completing installation of this option, insert this instruction sheet immediately behind the front cover of the Controller instruction manual.

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