



ADF RCVR SYNCHRO BEARING TO A-429 CONVERTER

PRODUCT P/N: 933753-01

INSTALLATION MANUAL

REV C

**Shadin Avionics
6831 Oxford Street
St. Louis Park, MN 55426
USA**

**Sales: (800)-328-0584
Technical Support: (800)-388-2849
WWW.SHADIN.COM**

MANUAL P/N: IM3753-01

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4037-289	Installation, ADF RCVR Synchro Bearing to A-429 Converter	6-21-06	C	
IK9339	Install Kit, 26 Pin D-Sub	3-3-06	A	

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REVISION LOG

REV.	DATE	APP'D	CHANGE
–	02-20-03	ZK	Baseline Release
A	03-10-03	ZK	Updated ARINC Label format definition
B	09-23-03	ZK	Added MTBF
C	06-21-06	ZK	Changed company name, updated description to Arinc low speed, specifications, and input ADF Valid Flag definition

The information in this manual is subject to change without notification. To ensure complete and current updates, note the Revision Log above and call Technical Assistance for updated information.

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1. OVERVIEW

1.1 THE MANUAL

This manual is intended to facilitate the proper installation of the ADF RCVR Synchro Bearing to A-429 Converter. Installation instructions should be read and followed.

1.2 PRODUCT DESCRIPTION

The converter accepts the ADF Bearing (ARINC 407 3-wire Synchro Data Inputs) and converts to A-429 low speed output label 162.

The block diagram below depicts the intended use of the converter in the aircraft installation.

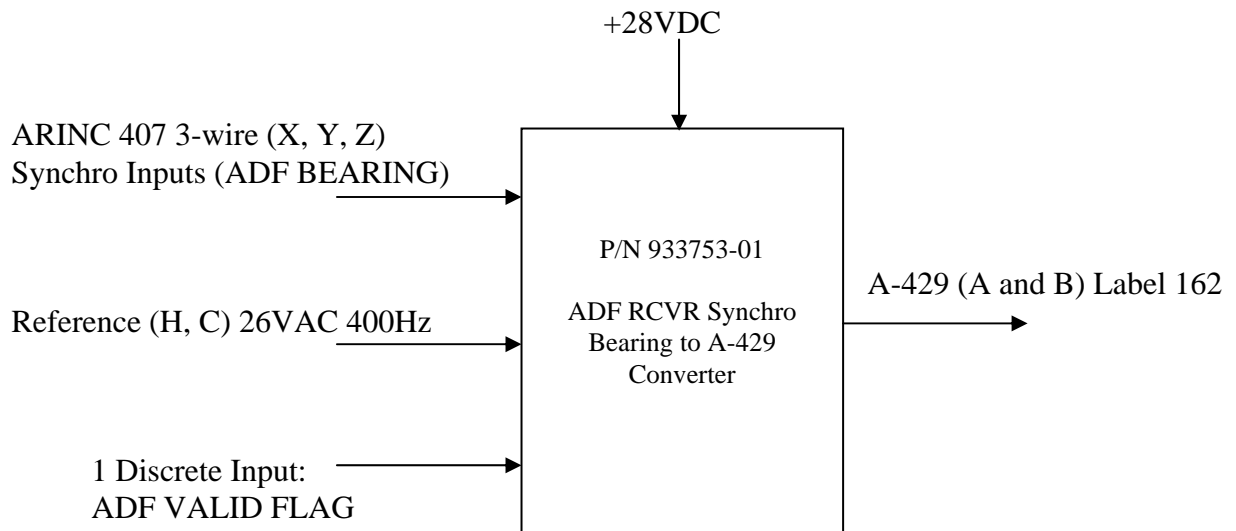


Figure 1. Block Diagram

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1.3 SPECIFICATIONS**Physical**

Dimensions: 1.15H x 4.30L x 2.40W (inches)

Weight: 0.4 lbs.

Electrical

Input Voltage: +28VDC

Input Current: 150mA

Input DataADF Bearing, ARINC 407 3-wire Synchro (Reference 26VAC 400Hz Excitation 11.8V_{L-L}).

1 Discrete Input: ADF Valid Flag

Output Data

ARINC 429 LS Data: ADF Bearing (Label 162).

Environmental

Categories: Testing Pending

Operating Temperature: -55°C to +70°C

Storage Temperature: -55°C to +85°C

Altitude: Up to 55,000 ft.

In-Flight loss of Cooling: Equipment can run indefinitely with no cooling.

MIL-HDBK-217 MTBF 69,780 hours

Certification: Pending

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1.4 INPUTS

This section specifies the interfaces for the Shadin ADF RCVR Synchro Bearing to A-429 Converter.

- ADF Bearing, ARINC 407 3-wire Synchro (Reference 26VAC 400Hz Excitation 11.8V_{L-L}).
- RX RS-232 Serial Data Input (Future Use)
- RX RS-422 Serial Data Input (Future Use)
- 1 Discrete Input: ADF Valid Flag

ADF VALID FLAG	
+28VDC	VALID > 16VDC
OPEN or GND	INVALID

1.5 OUTPUTS

- ARINC 429 Output ADF Bearing (Label 162)

LABEL	DESCRIPTION	FORMAT (BIT NO)	FUNCTION	BIT STATUS		
				ONE	ZERO	
162	ADF Bearing (BNR)	01-08	LABEL			
		09	SDI		0	
		10	SDI		0	
		11	DISPLAY ADF DEVIATION	ON	OFF	
					ADF Valid Flag is: 1=Valid 0=Invalid	
	Transmit Interval 50msec	12-16	SPARES		PAD ZEROS	
		17-28	BINARY ANGLE (*180/4096)			
		29	SIGN	180-360	0-180 DEG	
30-31		SM (11=Valid, 10=Invalid)				
	32	PARITY (ODD)				

- TX RS-232 Serial Data Output (Future Use)
- TX RS-422 Serial Data Output (Future Use)

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2. INSTALLATION PROCEDURE

2.1 MOUNTING

The ADF RCVR Synchro Bearing to A-429 Converter (P/N 933753-01) should be mounted in a dry location and the equipment may be installed in a non-pressurized and non-controlled temperature locations.

Use installation drawing, Drawing No.: 4037-289 to connect the ADF RCVR Synchro Bearing to A-429 Converter to the system. Use # 6-32 screws for mounting.

2.2 ELECTRICAL CONNECTIONS

Connection to Power Supply +28 VDC

933753-01		Description
J1:9	To	+14 to +28 VDC IN
J1:26	To	Power GND

Inputs

933753-01		Description
J1:1	To	H, Reference 26VAC 400Hz
J1:5	To	RX RS-232/RS-422 (-) (Future Use)
J1:6	To	RX RS-422(+) (Future Use)
J1:7	To	ADF Valid Flag
J1:10	To	X, Synchro Input
J1:11	To	Y, Synchro Input
J1:14	To	GROUND (Signal)
J1:16	To	RX RS-232 (Download) Program Loading. No Field Use.
J1:17	To	NC
J1:19	To	C, Reference 26VAC 400Hz
J1:20	To	Z, Synchro Input
J1:24	To	GROUND (Signal)
J1:25	To	NC

Outputs

933753-01		Description
J1:4	To	TX RS-232 (Future Use)
J1:8	To	NC
J1:12	To	TX ARINC 429 (A)
J1:15	To	TX RS-232 (Download) Program Loading. No Field Use.
J1:18	To	NC
J1:21	To	TX ARINC 429 (B)
J1:22	To	TX RS-422 (+) (Future Use)
J1:23	To	TX RS-422 (-) (Future Use)

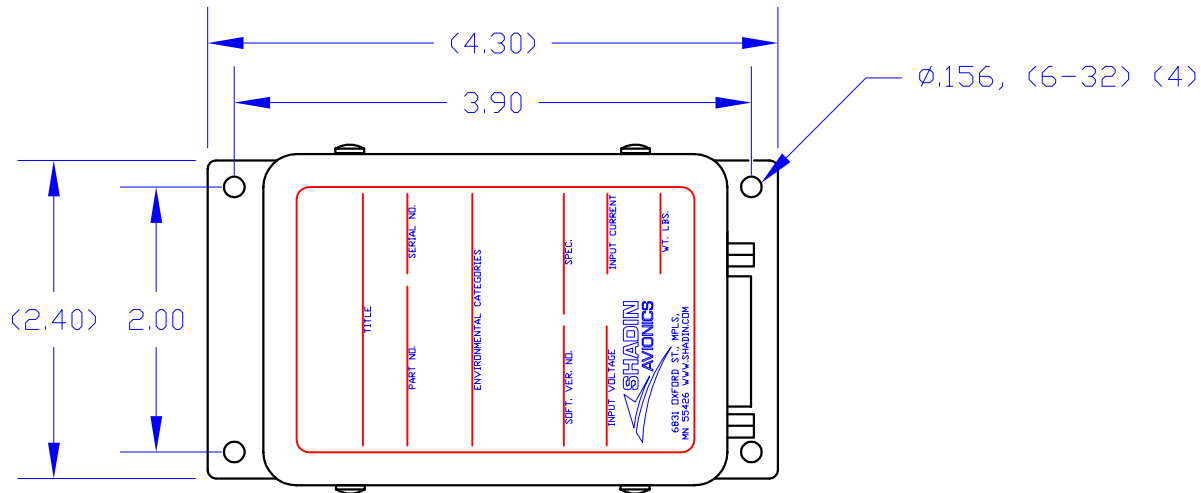
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SECTION 3.0

**INSTALLATION DRAWINGS AND
INSTALL KIT PARTS LISTS**

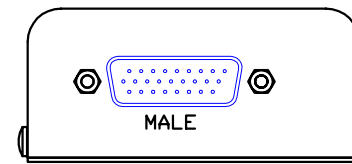
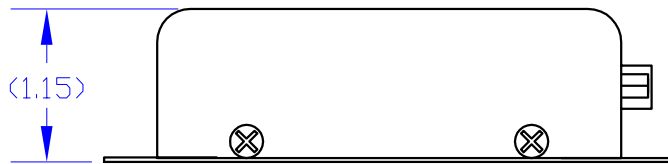
The following drawings are arranged in the sequence specified on page i of the Page Control Chart.

MATING CONNECTOR:
 PHY 3100-26F
 HOOD = CINCH # DA-24658




CONNECTOR WIRING

1. H, 26VAC 400 Hz REF
2. NC
3. NC
4. TX, RS-232 (FUTURE USE)
5. RX, RS-232/RS-422 (-) (FUTURE USE)
6. RX, RS-422 (+) (FUTURE USE)
7. ADF VALID FLAG
8. NC
9. 14-28 VDC IN
10. X, SYNCHRO INPUT
11. Y, SYNCHRO INPUT
12. TX, ARINC 429 (A)
13. NC
14. GROUND (SIGNAL)
15. TX, RS-232 (DOWNLOAD) } PROGRAM LOADING,
16. RX, RS-232 (DOWNLOAD) } NO FIELD USE
17. NC
18. NC
19. C, 26VAC 400 Hz REF
20. Z, SYNCHRO INPUT
21. TX, ARINC 429 (B)
22. TX, RS-422(+) (FUTURE USE)
23. TX, RS-422(-) (FUTURE USE)
24. GROUND (SIGNAL)
25. NC
26. POWER GROUND



ECD #	REV.	DATE	BY	APP'D	DESCRIPTION
0412/012	B	6/21/06	PAB	ZK	UPDATED NAMEPLATE
0303/014	A	3/10/03	PAB	ZK	UPDATED CONNECTOR WIRING
0302/025	-	2/20/03	PAB	ZK	BASELINE RELEASE

UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES TOLERANCES: X.X = ±0.1 X.XX = ±0.01 X.XXX = ±0.005	DRAWING DATE 2/20/03	 MINNEAPOLIS, MN 55426	INSTALLATION, ADF RCVR SYNCHRO BEARING TO A-429 CONVERTER
	DRAFTER PAB		
FINISH: N/A	APPROVED ZK	DRAWING NO. 4037-289	SIZE A
MATERIAL: N/A	DO NOT SCALE	SHEET 1 OF 1	P/N 933753-01 REV B

Report: 4037
 ECO Date: February 22, 2006
 Rev: A
 Sec.: IX
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ECO # 0602/030
 Release date: 3-3-06
 Approved: CB

PARTS LIST

Part #: **IK9339**

Drawing #: N/A

Description: **INSTALL KIT, 26 PIN D-SUB**

<u>FN</u>	<u>P/N</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>MFG.</u>	<u>MFG.#</u>	<u>DESIGNATION</u>	<u>COMMENTS</u>
5	230038	1	CONN, Hood 15 Pin D Sub	CIN	DA-24658		
10	230126	1	CONN, 26 Pin Hi-Density D Sub Socket	PHY	3100-26F		
15	511002	2	SCREW, 4-40 x 1/4"L, Phil Pan HD SS	MCM	91772A106		
20	541001	2	WASHER, #4 Split Lock SS	MCM	92147A005		
22	753217	1	COMPUTER LABEL, 3.5"x 15/16"	AVR	4013		
25	PK1001	1	BAG, 2.5 x 3, 4 MIL Zip Lock				
30	PK1007	1	BAG, 6 x 8, 4 MIL				

9 items