Dual LPV/VNAV-CONVERTER

Designed for either single or dual FMS/GPS installation

The LPV-Converter resolves the arising problem with the LPV/VNAV-approach that appears, when an aircraft is equipped with an EFIS system (e.g. Honeywell SPZ5000 in Cessna 525 or Thales system in EC135/145) and a SBAS capable (WAAS/EGNOS) FMS/GPS with an ARINC429 interface.

- ✓ Enables GPS approaches with vertical guidance (LPV/VNAV)
- ✓ Creates distance information derived from GPS data available on EFIS systems in ILS mode

In ILS mode, the EFIS system expects ARINC429 localizer deviation, glideslope deviation and ILS energize information. If a LPV/VNAV approach is active, the LPV/VNAV-Converter switches the ARINC GPS output from the Garmin unit into the NAV input of the EFIS system. The LPV/VNAV-Converter extracts ARINC429 data and the DME compliant data from any SBAS capable FMS/GPS datastream and fits additional labels into the generated modified datastream to the EFIS system.

Due to the missing glideslope feature of the EFIS, the LPV/VNAV -Converter simulates an approach signal like an ILS (LOC/GS) to drive the autopilot during a GPS approach with LNAV/LPV capability. While the ILS mode is active, the EFIS system expects ARINC429 labels (localizer deviation, glideslope deviation and ILS energizer information). In case of a SBAS (LNAV/LPV) capable GPS approach will be executed, the “Approach Active Discrete” enables the LPV/VNAV-Converter to supply the EFIS system AP-NAV-Input with ILS comparable GPS approach data. At the same time, the LPV/VNAV -Converter switches the DME information into GPS distance, speed and time information, shown on the EFIS display.

Approvals and environmental category:

- RTCA DO-160G
  (D2)BBB[S(B3)]XYXXFSZBAR(ZC)YM(A333X)XXAC
- RTCA DO-254, DAL B
- RTCA DO-178, DAL C

Mechanical characteristics:

Weight:	< 1 kg (35.27 oz)
Dimension:	180 mm x 130 mm x 40 mm (7.09 in x 5.12 in x 1.57 in)
Mounting:	4 ea. M3 screws
Cooling:	No cooling required

Electrical characteristics:

Input voltage:	18.0 VDC to 32.2 VDC
Max. current consumption:	< 0.3 A

Signal input:

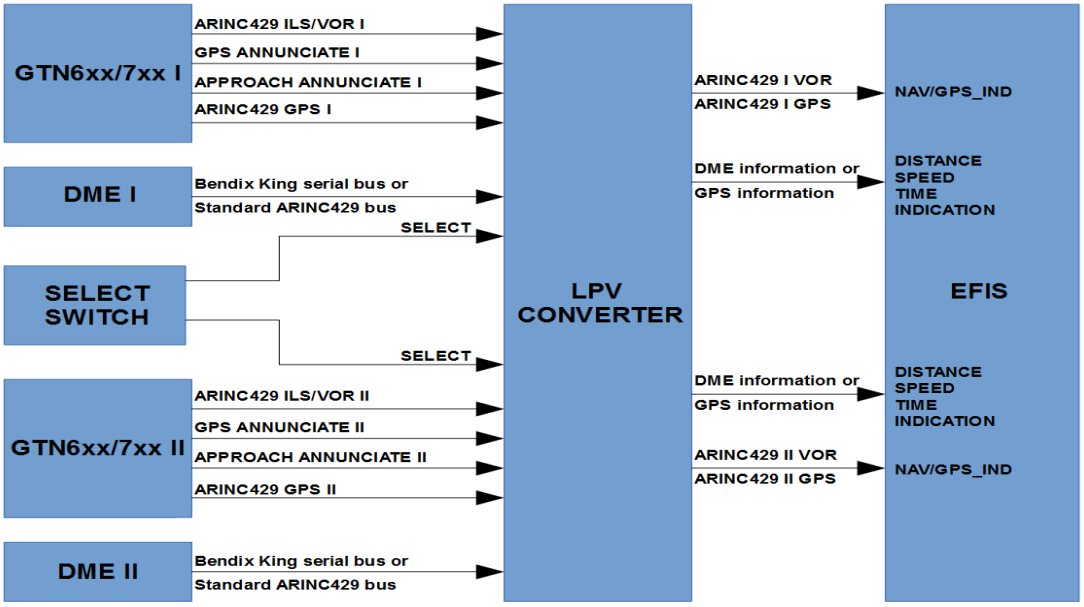
ARINC429 inputs:
- VOR/ILS and GPS from FMS/GPS
- DME (distance/speed/time) from ARINC429 capable DME system

Digital input:
- DME information from Bendix King serial bus capable DME system

Discrete inputs (active low):
- GPS_ANNUNCIATE from Garmin GTN6xx/7xx unit
- ILS/GPS APPROACH_ANNUNCIATE from Garmin GTN6xx/7xx unit
- GTN_SELECTED from FMS select switch
- Test input

AVIONIK STRAUBING Entwicklungs GmbH
Flugplatzstraße 5
D-94348 Atting
Tel.: +49-9429-94901-0
Fax: +49-9429-94901-99
E-Mail: info@et-avionik.de
Web: www.et-avionik.de

System overview:



Signal output:

ARINC 429 outputs:

- ARINC_ILS_OUT to the EFIS system
- ARINC_GPS_OUT to the EFIS system
- DME (distance/speed/time) for ARINC429 DME systems

Digital output:

- DME information for Bendix King serial bus capable DME system

Discrete output (active low):

- Output for an optional fail indicator

Recommended annunciator: Avionik Straubing MFI02/LPV

The MFI02/LPV is an ARINC429 to discrete signal converter with embedded annunciator display. Converting an ARINC429 signal to discrete outputs is simple with the software-free MFI02/LPV signal converter annunciator.

The MFI02 can be used anywhere and is prepared for customized annunciator application as stand alone display even without LPV/VNAV –Converter.

Signal input:

- 2 ea. ARINC429
- 7 ea. Discrete (active high or active low)