DAC International
an ALL CLEAR company

AVIONIK STRAUBING

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.

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/VNAVConverter 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.

- ENABLES GPS APPROACHES WITH VERTICAL GUIDANCE (LPV/VNAV)
- CREATES DISTANCE INFORMATION DERIVED FROM GPS DATA AVAILABLE ON EFIS SYSTEMS IN ILS MODE

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

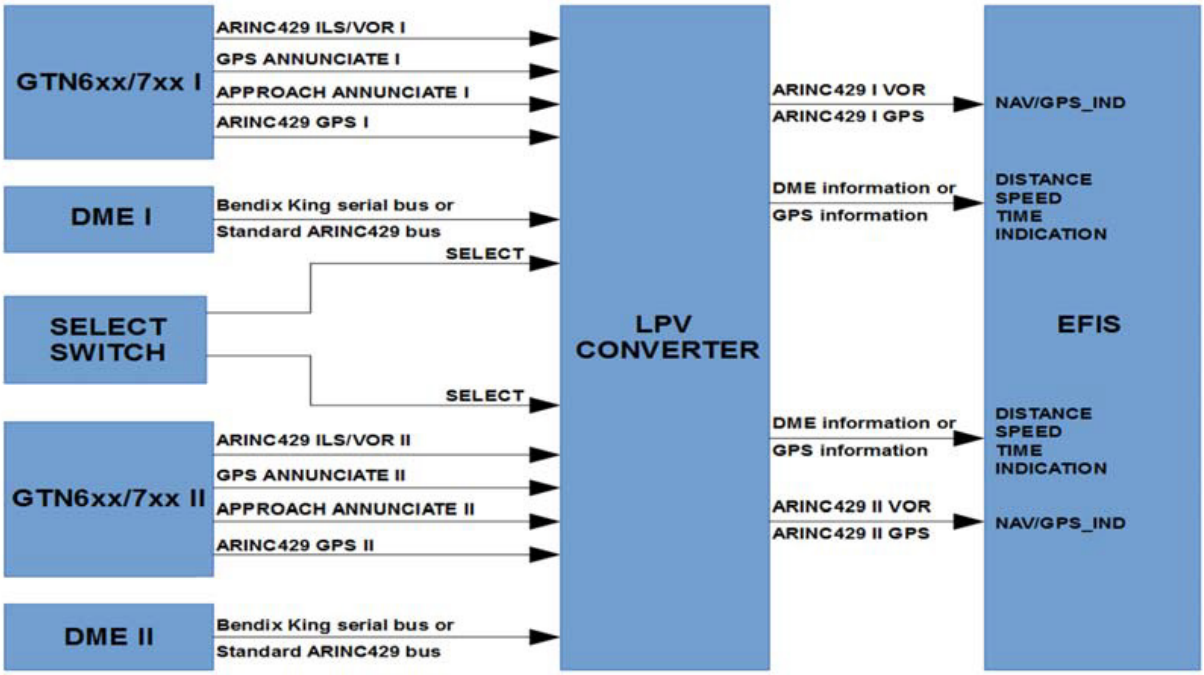
SIGNAL INPUT:

- 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

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)

DAC International is committed to quality, continuous improvement, and full regulatory compliance at every level of the organization through AS9120 and ISO 9100:2008 certifications, implementing lean processes, continuous quality improvement training initiatives, and a customer service focused business model. Our in-house legal and compliance teams maintain robust processes and procedures to comply with all federal, state, and local regulations including ITAR, EAR, and the FCPA.

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