

1PPS / IRIG-B over Optical Fiber Distribution Solution

Introduction:

VCL-2728 is a comprehensive 1PPS/IRIG-B over multi-mode optical fiber distribution solution which comprises of two units - VCL-2728-T and VCL-2728-R.

VCL-2728-T, 1PPS/IRIG-B - Transmitter: converts a “1PPS/IRIG-B Input” and transmits over a 850nm multi-mode optical fiber.

VCL-2728-R, 1PPS/IRIG-B - Receiver: receives a “Optical 1PPS/IRIG-B Input” over 850nm multi-mode optical fiber and converts the optical input to 4 x 1PPS / 4 x IRIG-B BNC outputs.

The VCL-2728-R may also be used in conjunction with either VCL-2728-T; VCL-2486-G or with VCL-2486-I units to transmit and distribute a 1PPS/IRIG-B signal over 850nm multi-mode optical fiber links.

Features and Highlights:

- Nanosecond accuracy output referenced to the optical 1PPS/IRIG-B Input
- Transparent to Optical 1PPS/IRIG-B Input
- Output shall be phase-synchronized to the input
- Up to 4 x IRIG-B / 1PPS Outputs
- 48V DC or AC Power Supply options.

VCL-2728-T Inputs:

Input Type	Number of Input	Connector
1PPS/IRIG-B Pulse	1	BNC

VCL-2728-T Outputs:

Output Type	Number of Output	Connector
Optical 1PPS/IRIG-B	1	ST

VCL-2728-R Inputs:

Input Type	Number of Inputs	Connector
Optical 1PPS/IRIG-B	1	ST

VCL-2728-R Outputs:

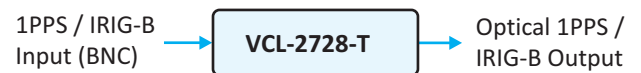
Outputs	Number of Outputs	Connector
IRIG-B/1PPS	4	BNC

Conversions Parameters:

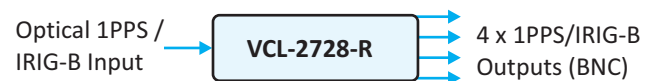
- Delay / Offset ≤ 80ns
- 1PPS accuracy +/-2ns



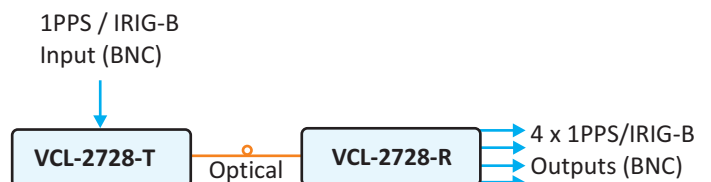
Block Diagram - VCL-2728-T:



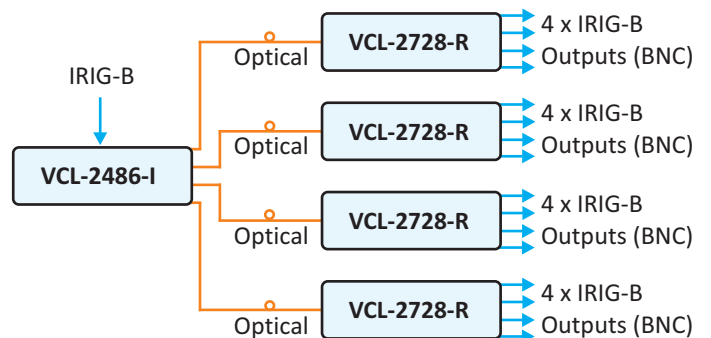
Block Diagram - VCL-2728-R:

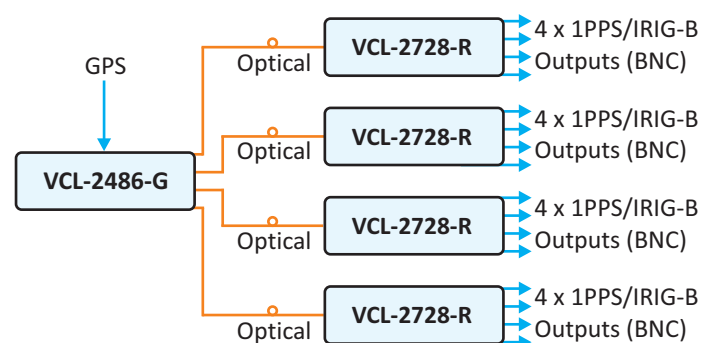


Application Diagram # 1:



Application Diagram # 2:



Application Diagram # 3:**Power Input and Consumption:**

- 15V DC to 60V DC (48V DC nominal)
- < 10W at ambient (steady state 24°C)

Power Supply Options:

- 24V DC / 48V DC
- AC (100V AC to 240V AC, 50/60 Hz) to 24V DC - External Adapter
- 110V DC / 220V DC to 24V DC - External Adapter

Environmental (Equipment):

Operational	-10°C to +60°C (Typical: +25°C)
Cold start	0°C
Storage	-20°C to +70°C
Humidity	95% non-condensing
Cooling	Convention Cooled. No cooling fans are required.

Regulatory Compliance:

- RoHS
- CE Marking
- Complies to IEEE and IEC standards
- Transportation ETS 300 019 Class 2.3

Standards & Compliance:

- IEC - EMC – Certified to EN 55032: 2005 / CISPR 32 Class A, EN 55024:2005, IEC 61000-4-2
- CE – 2001/95/EC, 2006/95/EC, EN60950-1, EN61000-6-2, EN61000-6-4
- FCC – FCC Part 15 Class A: Conducted Emission test on Power Line
- FCC Part 15 Class A: Radiated Emission >1 GHz FCC, 6 GHz, on Power Line.

Technical specifications are subject to changes without notice.
Revision – 2.1, December 07, 2023

Ordering Information:**Base Unit:**

Part No.:	Description
VCL-2728-T	VCL-2728-T 1PPS/IRIG-B Transmitter 1 x 1PPS/IRIG-B Input (BNC) 1 x 1PPS/IRIG-B Optical Output (ST) DIN Rail Installation Kit includes Mounting Hardware, Documentation, User Manual
VCL-2728-R	VCL-2728-R 1PPS/IRIG-B Receiver 1 x Optical (1PPS/IRIG-B Input - ST) 4 x 1PPS/IRIG-B Outputs (BNC) DIN Rail Installation Kit includes Mounting Hardware, Documentation, User Manual

Add Optional External Adaptor (if required):

AC	100V AC to 240V AC, 50/60 Hz) to 24V DC External Adapter
DC	110V DC / 220V DC to 24V DC External Adapter

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