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APPLICATIONS

Test cells
Nuclear accelerators
Applications with high ground noise

V605

6-channel, Optically Isolated Counter



MEach channel counts from dc to 2.5 MHz with ground isolation

FEATURES

- Six counters
- Maximum count of 24 bits (16,777,215) on each channel
- Optically isolated inputs
- Counter-inhibit input
- External isolated latch signal to update output registers
- Interrupt on overflow
- dc to 2.5 MHz count rate

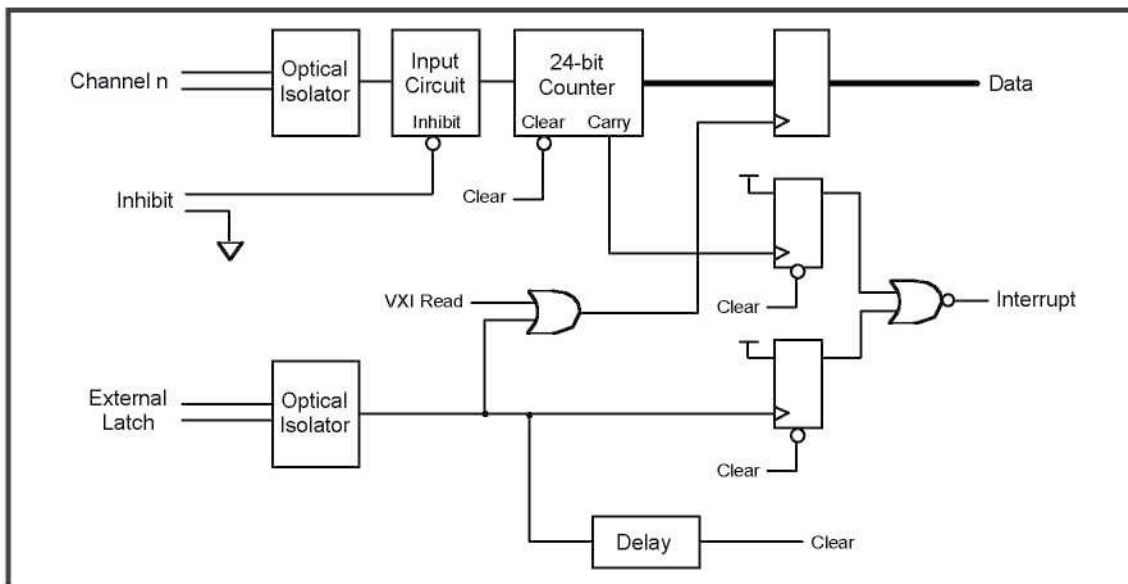
GENERAL DESCRIPTION

The V605 is a single-width, C-size, register-based, VXIbus module that contains six 24-bit, optically isolated counters. A signal in the range of +2.4 V to +5 V, with a 5 mA drive capability, is required to turn the optical isolator on. All inputs accept this as a logical "one" and clock the counter chains on the zero-to-one transition. The minimum clock pulse width is 100 ns. Counting can be suppressed by the application of a low-true, TTL-level signal at the front-panel Inhibit input.

Each counter's value must be loaded into its output register before it can be read by software. Upon receipt of an external Latch signal at the module's front panel, all six output registers are updated with the current contents of the counters. The output registers will not change until another Latch signal is received. The six counting chains, however, will continue to be incremented at rates determined by the incoming clock signals. The Latch input circuit has the same characteristics as the counter inputs, except it is not affected by the Inhibit input.

The V605 can generate an interrupt either on the receipt of an external Latch signal, or on the overflow of any one of the six counter chains. Separate Interrupt Enable commands are provided, and an Interrupt Status Register can be read to determine the exact source of the interrupt. The Interrupt Source bits are cleared by software commands. The V605 supports both static and dynamic configuration. Access to the data is through memory locations indicated by the Offset Register within the VXIbus Configuration Register set, using A24/A16, D16 data transfers.

A Typical Counter Channel



ITEM	SPECIFICATION
Number of Channels	6, optically isolated
Input Voltage Levels Logic "0" Logic "1"	0.0 V to 0.8 V 2.4 V to 5.0 V
Input Current Requirements	5 mA
Counter/Latch Inputs Input-output insulation Input-output resistance	1 μ A, with 45% relative humidity, t = 5s, V _{iso} = 3 kV dc, T _A = 25°C 10 ¹² Ω
Maximum Clock Rate (per channel)	2.5 MHz
Input Connector Types Counter/latch connectors Inhibit connector	2-pin LEMO receptacle, shell size 0 Single-pin LEMO receptacle, shell size 00
Mating Connectors Counter/latch connectors Inhibit connector	KineticSystems Model 5911-Z1A KineticSystems Model 5910-Z1A
Power Requirements +5V	2.6 A, typical
Environmental and Mechanical Temperature range Operational Storage Relative humidity Cooling requirements Dimensions Front-panel potential	0°C to +50°C -25°C to +75°C 0 to 85%, non-condensing to 40°C 10CFM 340 mm x 233.35 mm x 30.48 mm (C-sized VXIbus) Chassis ground

RELATED PRODUCTS

Model 5857-Axyz	Cable—1-contact LEMO to Unterminated
Model 5857-Bxyz	Cable— 1 -contact LEMO to 1 -contact LEMO
Model 5857-Cxyz	Cable—2-contact LEMO to Unterminated
Model 5857-Dxyz	Cable—2-contact LEMO to 2-contact LEMO
Model 5857-Gxyz	Cable—2-contact LEMO to BNC shielded
Model 5857-Hxyz	Cable—1-contact LEMO to BNC shielded
Model 5910-Z1A	Connector— 1 -contact LEMO
Model 5911 -Z1A	Connector—2-contact LEMO

ORDERING INFORMATION

MODEL	DESCRIPTION
V605-MA11	6-channel, 2.5 MHz Optically-Isolated Counter

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