

DATA SHEET



# EX1200-7500

64-CHANNEL 2 MHz DIGITAL INPUT/OUTPUT

## FEATURES

Eight ports of 8 I/O bits each

High current capability for control of external relays,  
300 mA sink

Simulate and receive digital data at up to 2 MHz  
sample rates

Selectable output voltages range from 3.3 V to 60 V

Setup outputs and scan inputs as part of EX1200  
measurement sequencing engine



[www.vtiinstruments.com](http://www.vtiinstruments.com)

RELIABLE DATA FIRST TIME EVERY TIME

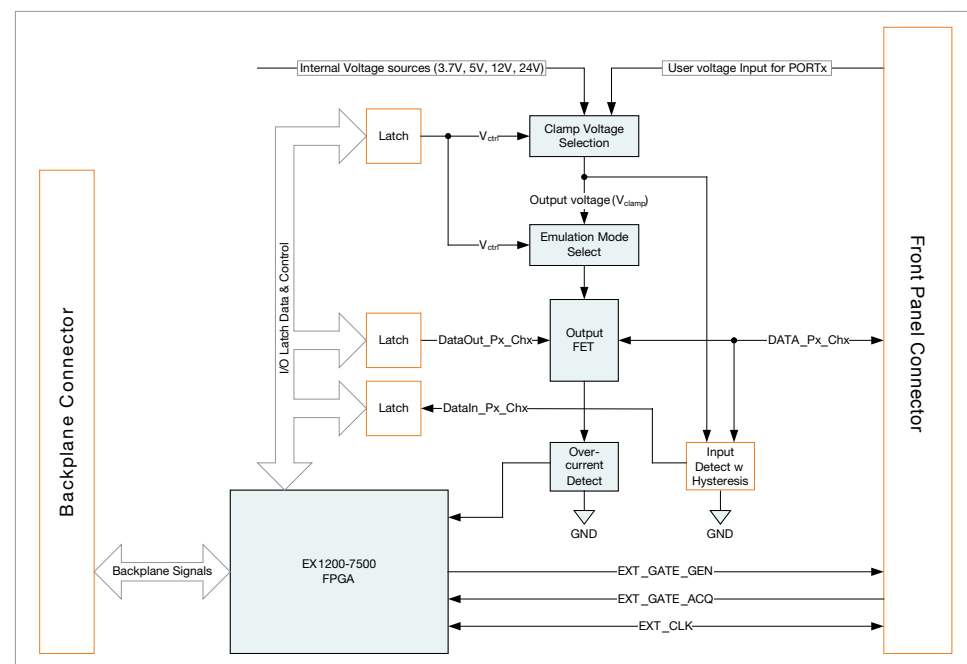
# OVERVIEW

The EX1200-7500 is a high-performance I/O module with eight 8-bit ports (64 channels). Each port may be configured as an input or output under program control. The I/O may be single buffered, to provide real time data access, or double buffered, to provide synchronized data. As part of the EX1200 series, up to 384 channels can be accommodated in a full rack mainframe or combined with other plug-ins to configure a measure and control subsystem.

The EX1200-7500 has the flexibility to source the input and output clocks from the front panel allowing very large numbers of channels to be synchronized to collect or present data to a UUT. Additionally, input data can be timestamped to IEEE 1588 precision as part of the EX1200 scan engine. Deep on board memory (up to 1 MB) can be used to generate patterns on output channels at rates up to 2 MHz. In order to ease overall system cabling, all clamping diodes and open collector channels can be pulled up internally, rather than on a per channel basis.

Each channel can sink 300 mA, and includes built-in clamping diodes making this module ideal for driving and sensing external devices such as relays.

## BLOCK DIAGRAM



# General Specifications

## DATA INPUT CHARACTERISTICS

|                 |                        |
|-----------------|------------------------|
| $V_{IN}$ (high) | > 40% of $V_{clamp}^1$ |
| $V_{IN}$ (low)  | < 16% of $V_{clamp}^1$ |
| $V_{IN}$ (max)  | 60 V                   |

## DATA OUTPUT CHARACTERISTICS

|                  |                  |
|------------------|------------------|
| $V_{OUT}$ (high) | > 2 V to 60 V    |
| $V_{OUT}$ (low)  | < 1.5 V @ 300 mA |

## VOLTAGE RANGE

|                         |  |
|-------------------------|--|
| Internal Voltage Source | $\pm 3.3$ V, $\pm 5.0$ V, $\pm 12.0$ V, and $\pm 24.0$ V |
| User                    | > 2 V up to 60 V   |

## MODES

|              |  |
|--------------|--|
| Immediate    | Inputs and outputs read and written via software control                             |
| Asynchronous | Channels are latched into memory via external clock                                  |
| Pattern      | Buffered pattern generation and acquisition controlled by internal or external clock |

## GATE (PATTERN MODE)

Programmable active low or high

## CHANNEL CONFIGURATION (PATTERN MODE)

32 inputs, 32 outputs

## MEMORY DEPTH

|                          |      |
|--------------------------|------|
| Output or input Enabled  | 2 MB |
| Output and input Enabled | 1 MB |

## MAXIMUM EXTERNAL CLOCK RATE

|                             |         |
|-----------------------------|---------|
| Pattern Generation Disabled | 2.5 MHz |
| Pattern Generation Enabled  | 2 MHz   |

## MAXIMUM PATTERN UPDATE RATE

|                             |         |
|-----------------------------|---------|
| Pattern Generation Disabled | 2.5 MHz |
| Pattern Generation Enabled  | 2 MHz   |

## DATA INPUT CLOCK SOURCES

Internal clock, front panel input

## POWER CONSUMPTION

|       |          |
|-------|----------|
| 3.3 V | 0.260 A  |
| 5 V   | 0.450 A  |
| 24 V  | 0.0240 A |

## CONNECTOR TYPE

160-pin

## Notes:

1.  $V_{clamp}$  is the user defined reference voltage.

## Ordering Information

|                              |   |
|------------------------------|---|
| <b>EX1200-7500</b>           | 64-channel 2 MHz digital input/output                             |
| <b>ACCESSORIES AND TOOLS</b> |   |
| 70-0363-504                  | Strain relief bracket (includes connector, recommended accessory) |
| 70-0363-503                  | Strain relief bracket kit (without connector)                     |
| 52-0109-000                  | Crimp pin (includes 100 crimp pins)                               |
| 27-0088-160                  | Mating connector (one per board)                                  |
| 46-0010-000                  | Crimp tool (DIN)  |
| 46-0011-000                  | Extraction tool (DIN)   |
| 70-0363-505                  | 160-pin, unterminated cable assembly, 3 ft                        |
| 70-0367-005                  | EX1200-TB160SE terminal block, single-ended module                |