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Data Sheet

August 15, 2026

ABACO SYSTEMS / SBS / GREENSPRING

Abaco Systems / SBS / Greenspring IP-Altera-TTL / IP-Altera-TTL-RO Digital I/O IndustryPack Module - TTL Interface

IndustryPack module providing a TTL digital I/O interface. Designed for industrial applications requiring solid and reliable digital interfacing.


MODEL

Abaco Systems /
SBS / Greenspring
IP-Altera-TTL

CALIBRATION

Available on
request

CONDITION

Used

STATUS

In stock

RFQ / SKU

IP-Altera-TTL

LISTING

<https://aumictechlabs.com/products/ip-altera-ttl-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Abaco Systems IP-Altera-TTL and IP-Altera-TTL-RO are single-wide IndustryPack modules that deliver TTL digital I/O interfacing built around an Altera 10K40-3 FPGA. These modules provide 28 total digital I/O lines - 20 differential and 8 TTL - with fully programmable line direction and tri-state capability. Purpose-built for non-standard communication protocols in aerospace and satellite test environments, they enable custom digital interface implementation without external glue logic. Technical Specifications FPGA Core: Altera 10K40-3 Total Digital I/O: 28 lines (20 differential + 8 TTL) Reference Output: 1.5 V available on dedicated I/O pin IndustryPack Bus: 32 MHz IP Specification with 1 wait state Form Factor: Single-wide IndustryPack Key Features Each I/O line direction is independently programmable TTL lines integrate LineSafe ESD protection

TTL outputs support tri-state buffering Differential lines feature separate output enable bits and socketed termination resistors 1.5 V reference output enables differential receivers to function as TTL inputs when reference is connected to receiver minus input Supplied Altera design file-set (version 7.1) includes basic schematic, ACF file, simulation files, vector files, IndustryPack bus control interface, digital I/O examples, interrupt implementation, and ID PROM configuration

Typical Applications Satellite and aerospace test systems requiring non-standard protocol support. Instrumentation platforms where custom digital interface logic cannot be accommodated on the host carrier card. Systems needing flexible TTL and differential I/O mixing on a single module.

Compatibility & Integration Requires external Altera Development System for custom design implementation. Operates with any IndustryPack-compatible carrier supporting the 32 MHz IP Specification.

IPALTERATTL Characteristics / Specifications

PARAMETER	VALUE
Model	IP-Altera-TTL
Instrument Type	Altera FPGA TTL IndustryPack
Card Format	single wide IndustryPack ANSI VITA 4
Logic Device Class	Altera programmable logicIOClass: buffered TTL
Module Width	single wide
Mezzanine Standard	ANSI VITA 4 IndustryPack
Carrier Interface	IndustryPack logic interface
Related Model	IP-Altera-RO
Product Line	Greenspring SBS Abaco Altera IP family
Configuration Class	user configurable FPGA
Digital Interface	TTL buffered lines
Catalog Form	IndustryPack modular I/O
Operating Class	commercial IndustryPack module
Host Bus Width Class	IndustryPack 16-bit style logic interface
Id Prom	IndustryPack ID PROM supported class
Dimensions Typical Ip	1.800 by 3.900 by 0.340 inches maximum
Programming Model	user logic in Altera device
Family Purpose	custom digital I/O and state machines
Logic Connector	IndustryPack logic interfaceIOConnector: IndustryPack 50-pin I/O class
Module Width Class	single wide unless noted
Typical Length	3.900 inches
Typical Width	1.800 inches

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Product Line	Greenspring SBS Abaco Altera IP family
Configuration Class	user configurable FPGA
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Catalog Form	IndustryPack modular I/O
Operating Class	commercial IndustryPack module
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Notes	
From Greenspring SBS Abaco IP-Altera family product listings. Gate count I/O pin count and speed grade are revision specific and must be taken from the OEM datasheet for the installed assembly.	

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.