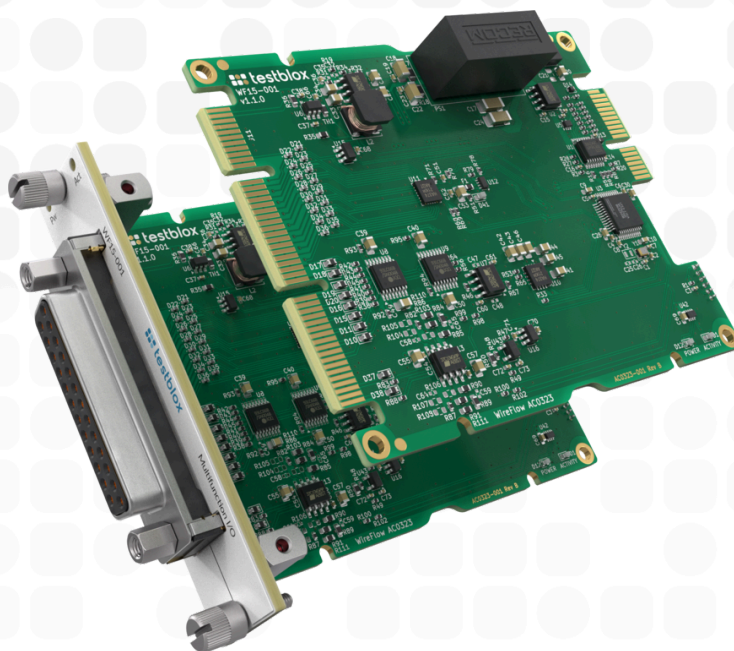




Testblox WF15-001

Multifunction I/O: 8 AI, 2 AO, 16 DIO



The WF15-001 is a multifunction I/O module in the Testblox family. It combines eight single ended or four differential analog inputs, two analog outputs and 16 digital inputs and outputs on one module, for testers that need mixed measurement, stimulus and control close to the DUT.

The analog inputs measure ± 10 V with 16-bit resolution at up to 100 kS/s aggregated, and the analog outputs drive ± 10 V with 12-bit resolution. Each digital channel can be an input or an output, at 3.3 V or 5 V logic levels. The channels are isolated from the backplane ground, and the module is factory calibrated.

Functionality

- 8 single ended or 4 differential analog inputs, ± 10 V, 16-bit
- Up to 100 kS/s aggregated sample rate
- 2 analog outputs, ± 10 V, 12-bit
- 16 digital inputs/outputs, 3.3 V or 5 V
- Isolated from backplane ground
- Factory calibrated



Specifications

Analog Inputs	
Number of single ended/differential channels	8/4
Input voltage range (channel-to-ground)	+/-10V
Absolute maximum input voltage	+12 V
Absolute minimum input voltage	-12 V
Resolution	16 bits
Input impedance	> 1G Ω
Maximum sample rate	100kS/s (aggregated)
Maximum sample rate per channel single ended	12.5 / 25 / 50 / 100 kS/s (with 8/4/2/1 ch)
Maximum sample rate per channel differential	25 / 50 / 100 kS/s (with 4/2/1 ch)
Absolute accuracy (25°C)	<20 mV (TBC)
Absolute accuracy (over temperature)	<50 mV (TBC)
System noise	TBD mVrms
CMRR	TBD dB (DC to 5kHz)
Bandwidth	>200 kHz (TBC)

Analog Outputs	
Number of channels	2
Output voltage range	± 10 V
Resolution	12 bits
Output accuracy (25°C)	TBD mV
Output accuracy (over temperature)	TBD mV
Output noise	TBD mVrms
Maximum update rate	≥ 5 kS/s (TBD)
Maximum output current per channel (55°C)	38 mA
Maximum combined output current all channels (55°C)	38 mA
Short-circuit current per channel	65 mA ¹
Output impedance	2-3 Ω
Slew rate	20 V/ μ s
Output bandwidth	TBD kHz



Digital Inputs and Outputs	
Number of channels	16
Input mode	
Input logic levels, VDIG	3.3 V / 5 V
Low level input voltage	$< 0.3 \times \text{VDIG}$
High level input voltage	$> 0.7 \times \text{VDIG}$
Absolute maximum input voltage	TBD V
Absolute minimum input voltage	TBD V
Input current	$\pm 1 \mu\text{A}$
Programmable pull-up resistance (typical)	100 k Ω
Programmable pull-down resistance (typical)	100 k Ω
Output mode	
Output logic levels	3.3 V / 5 V
Source current (max per channel)	10 mA
Source current (max total)	60 mA
Sink current (max per channel)	25 mA
Sink current (max total)	150 mA

Power supply	
Supply voltage	24 VDC $\pm 5\%$
Rated power	2.4 W (100 mA)

Isolation	
Channel-to-earth (backplane ground)	
Isolation working voltage	250 V continuous
Isolation Barrier	10 M Ω
Bleeder Resistance	

Environmental	
Operating temperature	0°C to +55°C
Indoor / Outdoor	Indoor use only
Altitude	< 5000 m over sea level (TBC)

Mechanical	
Size (w x d x h)	90 x 69 x 15.3 mm
Weight	50 g

Calibration	
Factory calibrated	Yes
Field recalibration	Not required

Compliance	
CE marked	
EMC compliant	
RoHS compliant	
REACH compliant	
WEEE compliant	

¹ output is disconnected when thermal protection of output opamp is triggered



Product Order Codes

Testblox Multi IO AI +/-10V 16-bit
8/4, DIO 5V/3.3V 16, AO +/-10V 2

WF15-001

Single-Module USB-C Backplane

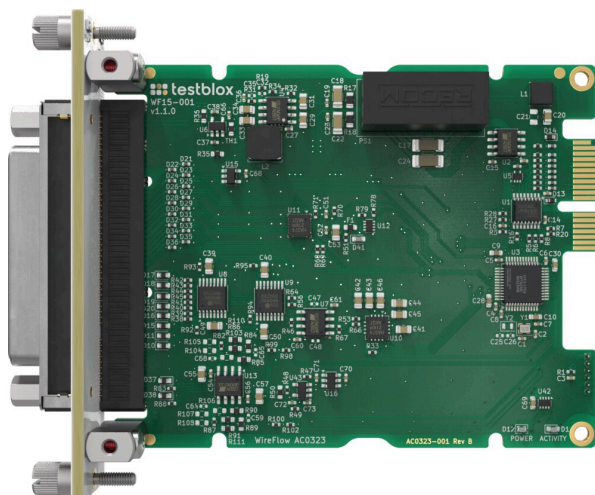
TB92-001

Three-Module Horizontal USB-C
Backplane

TB94-003-001

Four-Module Vertical USB-C
Backplane

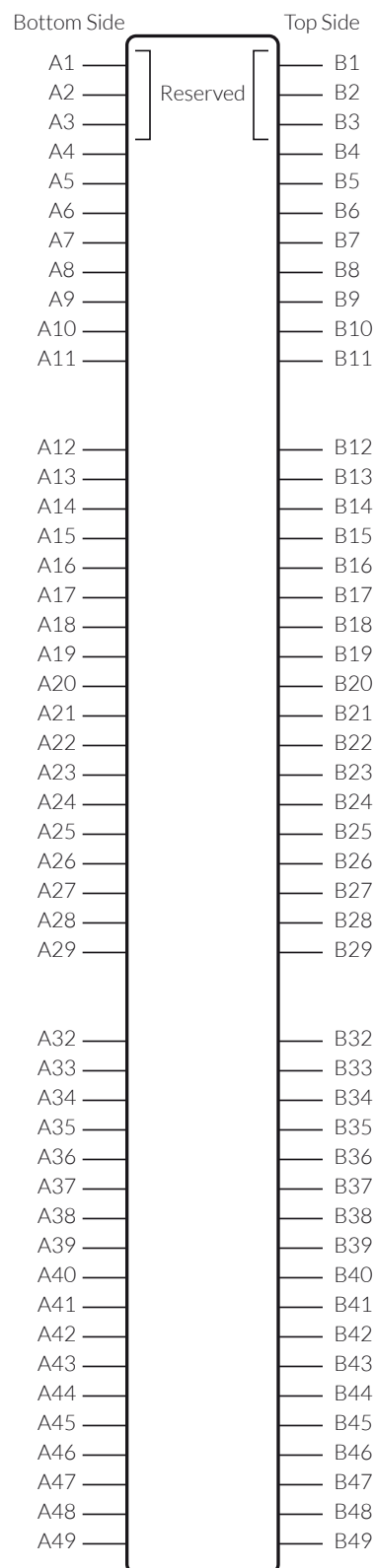
TB94-004-001





Pinout - Front Edge Connector

Pinout for Front Edge Connector - WF15-001	
Pin A1 - RESERVED	Pin B1 - RESERVED
Pin A2 - RESERVED	Pin B2 - RESERVED
Pin A3 - RESERVED	Pin B3 - RESERVED
Pin A4 - GND	Pin B4 - GND
Pin A5 - GND	Pin B5 - GND
Pin A6 - GND	Pin B6 - GND
Pin A7 - GND	Pin B7 - GND
Pin A8 - GND	Pin B8 - GND
Pin A9 - GND	Pin B9 - GND
Pin A10 - GND	Pin B10 - DIO1
Pin A11 - GND	Pin B11 - DIO1
Pin A12 - DIO2	Pin B12 - DIO3
Pin A13 - DIO2	Pin B13 - DIO3
Pin A14 - DIO4	Pin B14 - DIO5
Pin A15 - DIO4	Pin B15 - DIO5
Pin A16 - DIO6	Pin B16 - DIO7
Pin A17 - DIO6	Pin B17 - DIO7
Pin A18 - DIO8	Pin B18 - DIO9
Pin A19 - DIO8	Pin B19 - DIO9
Pin A20 - DIO10	Pin B20 - DIO11
Pin A21 - DIO10	Pin B21 - DIO11
Pin A22 - DIO12	Pin B22 - DIO13
Pin A23 - DIO12	Pin B23 - DIO13
Pin A24 - DIO14	Pin B24 - DIO15
Pin A25 - DIO14	Pin B25 - DIO15
Pin A26 - DIO16	Pin B26 - AIN2
Pin A27 - DIO16	Pin B27 - AIN2
Pin A28 - GND	Pin B28 - AIN4
Pin A29 - GND	Pin B29 - AIN4
Pin A32 - GND	Pin B32 - AIN6
Pin A33 - GND	Pin B33 - AIN6
Pin A34 - GND	Pin B34 - AIN8
Pin A35 - GND	Pin B35 - AIN8
Pin A36 - GND	Pin B36 - AIN7
Pin A37 - GND	Pin B37 - AIN7
Pin A38 - GND	Pin B38 - AIN5
Pin A39 - GND	Pin B39 - AIN5
Pin A40 - GND	Pin B40 - AIN3
Pin A41 - GND	Pin B41 - AIN3
Pin A42 - GND	Pin B42 - AIN1
Pin A43 - GND	Pin B43 - AIN1
Pin A44 - GND	Pin B44 - GND
Pin A45 - GND	Pin B45 - GND
Pin A46 - GND	Pin B46 - AOUT1
Pin A47 - GND	Pin B47 - AOUT1
Pin A48 - GND	Pin B48 - AOUT2
Pin A49 - GND	Pin B49 - AOUT2

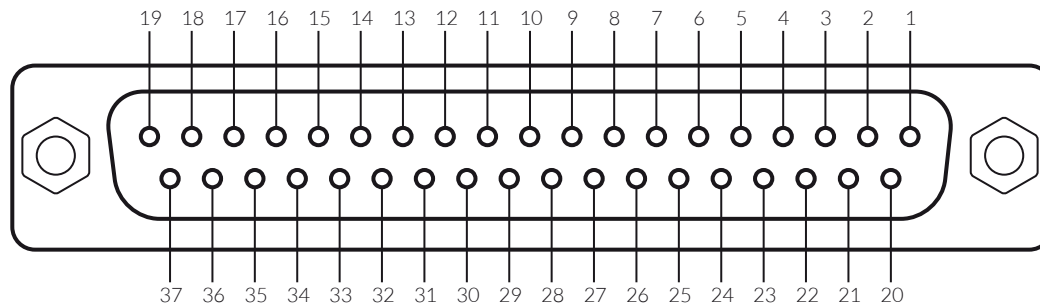


Pinout Diagram for Front Edge Connector



Pinout - Using 37-pin D-type Interface Board

Pinout for 37-pin D-type Interface Connector - TB73-202	
Pin 1 - AOUT2	Pin 20 - GND
Pin 2 - AOUT1	Pin 21 - GND
Pin 3 - GND	Pin 22 - GND
Pin 4 - AIN1	Pin 23 - DIO16
Pin 5 - AIN3	Pin 24 - DIO14
Pin 6 - AIN5	Pin 25 - DIO12
Pin 7 - AIN7	Pin 26 - DIO10
Pin 8 - AIN8	Pin 27 - DIO8
Pin 9 - AIN6	Pin 28 - DIO6
Pin 10 - AIN4	Pin 29 - DIO4
Pin 11 - AIN2	Pin 30 - DIO2
Pin 12 - DIO15	Pin 31 - GND
Pin 13 - DIO13	Pin 32 - GND
Pin 14 - DIO11	Pin 33 - GND
Pin 15 - DIO9	Pin 34 - GND
Pin 16 - DIO7	Pin 35 - GND
Pin 17 - DIO5	Pin 36 - GND
Pin 18 - DIO3	Pin 37 - GND
Pin 19 - DIO1	

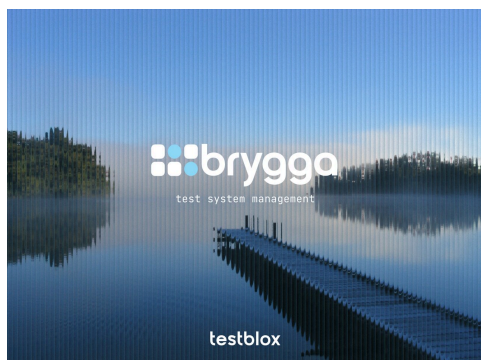


**37-pin Female D-type Connector
as viewed from front of module**



About Testblox

Testblox is an integrated, modular instrumentation platform designed specifically for automated functional test. Its playing-card-sized modules can be embedded inside standard test fixtures, bringing measurement, switching, power, and I/O closer to the device under test. This reduces rack space, cabling, and overall system complexity while providing the reliability and support expected in production ATE.



The Testblox portfolio includes analog and digital I/O, digital multimeters, power supplies, DUT communication, and a broad selection of switching modules, including multiplexers, matrices and general-purpose relays. Electrically isolated modules help prevent ground loops and simplify integration. Engineers can control Testblox systems using Brygga Test Management Software, Python, LabVIEW or C#, with a consistent software model across the platform.

Modules can be used individually with a single-module backplane or combined together with three- or four-module backplanes to create a test system tailored to the application. DUT signals are available directly from each module's front-edge connector or through standard D-sub cabling.

Testblox is a multi-vendor platform developed through complementary expertise. Testblox AB provides the core architecture, backplanes, system software and selected I/O; Wireflow contributes multifunction I/O and power-supply technology; and Pickering Interfaces contributes switching and measurement expertise. Together, they deliver specialist instrumentation through a common form factor, electrical interface and software workflow.

Designed and manufactured in Europe, Testblox modules are backed by a three-year warranty and a commitment to more than 20 years of hardware availability — providing a compact, cost-effective platform built for long-term automated test.

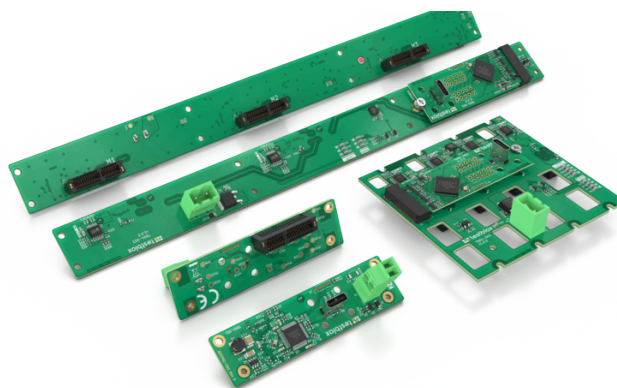
For more information, visit: www.testblox.com





Testblox Backplanes

Every Testblox system requires a backplane. Choose a one-, three- or four-module backplane to bring compact measurement, switching, power and I/O into your test fixture, with a USB-C connection to the host computer.



Backplane	Part Number	Typical Use
Single-Module USB-C Backplane	TB92-001	A single instrument in a compact fixture
Three-Module Horizontal USB-C Backplane	TB94-003-001	A low-profile arrangement of instruments
Four-Module Vertical USB-C Backplane	TB94-004-001	More instruments within a small footprint

USB communication and system power

Control the system using USB Full Speed at 12 Mbit/s through a USB Type-C connector. All backplanes use an external 24 V supply through a pluggable screw terminal. Check the selected backplane datasheet for power requirements; the system is not powered by the USB-C connection.

Mounting inside the fixture

Testblox mounting accessories support and retain modules while allowing individual modules to be removed for maintenance. Choose the mounting accessory to suit the backplane and the fixture connection method. You are also free to print your own with the files available on testblox.com. DUT signals connect through each module's front-edge connector or an available D-sub front panel.

Accessory	Application
TB82-003	Module guides for the Three-Module Horizontal Backplane
TB82-001	Module guides for one module in the Four-Module Vertical Backplane
TB82-002	Module guides for four modules in the Four-Module Vertical Backplane



Before ordering, check module count, fixture clearance, DUT connectors, power budget and required mounting accessories. Refer to the individual module specifications for module-to-backplane isolation ratings.

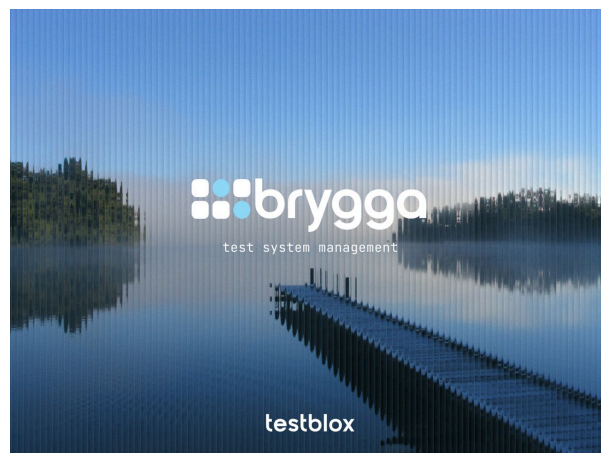


Testblox Software

Use Brygga Test Management Software to discover, configure and interactively test your Testblox system, then use the APIs and module simulation to develop your automated test application.

Brygga system setup and interactive control

Bring up hardware without writing code. Brygga Test Management Software combines system discovery, configuration, module test panels and firmware management in one test system management interface, helping you check connections and exercise instruments before automating a test.



Task	What you can do with Brygga
Discover and locate	Automatically discover connected backplanes and modules. Activate module front panel LEDs to match software entries to physical hardware.
View the system	See backplanes, installed modules, slot positions and connection status together.
Name and configure	Assign hardware and channel aliases shared with the API. Set module ranges, channels, limits and start-up states where supported.
Measure and control	Use module-specific test panels to take measurements, control outputs and operate switches without writing software.
Update firmware	Identify available firmware updates and install them on selected systems or modules.

APIs for automated test development

Integrate Testblox into your own test software using drivers, APIs and example programs. Windows and Linux support, together with Python, NI LabVIEW and C# integration, lets you use familiar development tools. Hardware and channel aliases assigned in Brygga carry through to the API, helping you use recognizable names in your test code. Refer to the software documentation for supported operating-system versions and module-specific functionality.

Module simulation

Configure simulated modules offline and develop your application before the hardware arrives. Simulation is intended to provide representative signal data, so you can exercise configuration, API calls and application logic while fixture development continues.

Software downloads and documentation: testblox.com/software



Testblox Support & Services

Testblox combines a three-year warranty, long-term hardware availability and technical support to help you build and maintain production test systems throughout their working life.

Three year warranty and long term availability

Testblox modules are backed by a three-year warranty and a commitment to more than 20 years of hardware availability. This helps protect your test system investment and reduces the disruption associated with premature product obsolescence.

Contact Testblox to discuss lifecycle requirements, product availability and support for your application. Refer to the published warranty terms for coverage and the process for arranging service.



Technical help from setup to troubleshooting

Use the Testblox technical support forums to ask questions, share solutions and discuss hardware, software and system integration. For an issue that needs direct assistance, or includes confidential application information, contact the support team by email.

Contact or resource	Where to go
Technical support forums	https://forum.testblox.com/
Technical support and service enquiries	support@testblox.com
Product information	https://testblox.com/

Help us resolve your issue

Include the module and backplane order codes, serial numbers, software and firmware versions, host operating system, and a short description of the problem. Attach relevant error messages, logs and a simple example that reproduces the issue. Keep confidential data out of public forum posts.

