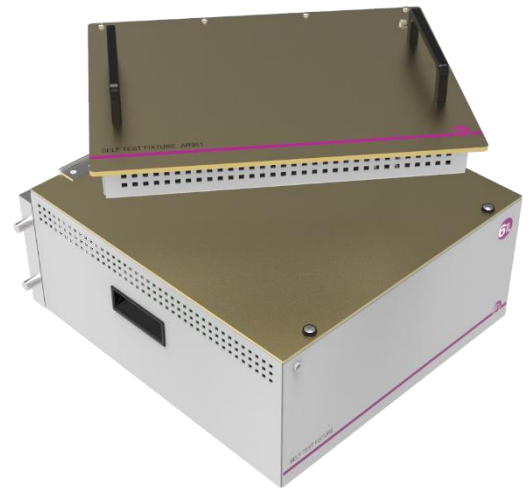


Features and benefits

- PC status diagnostic through its Ethernet port
- Check the calibration of the DMM, Digitizer and Generator of arbitrary waveforms
- Diagnosis of the state of the relay contacts, measuring their resistance with four wires technique. On YAV switching cards, additionally, information on the number of normal switching cycles and short cycles
- Check logic and analogy I/O
- Check power supplies (Up to 8), electronic loads and SMU's, with power load resistors
- Pre-wired for up to 25 test adapter modules
- Management of external power relay
- Made for different ITA's: 9025, G12X, G12 & 6TL-8
- Control by CAN bus. Automatic identification of the diagnostic fixture and selection of the specific test executive program
- Modular software, parametric and adaptable to new devices
- Electronic results report, exportable to PDF



The most productive assistant in your test system

The fixtures AL663 includes all the electronic blocks required to perform an effective test platform status diagnostic. Thanks to this device, a chain of tests can be performed, which will end up not only with a report of the defective instruments or switch modules, but also with the relay contacts live expectancy report.

The AL663 are supported by the 6TL module adapters, which are directly plug the Test Platform (ATE) mass interconnect modules. It check the relays contact status with accurate current procedure. That will ensure its capabilities even for very low voltages and currents.

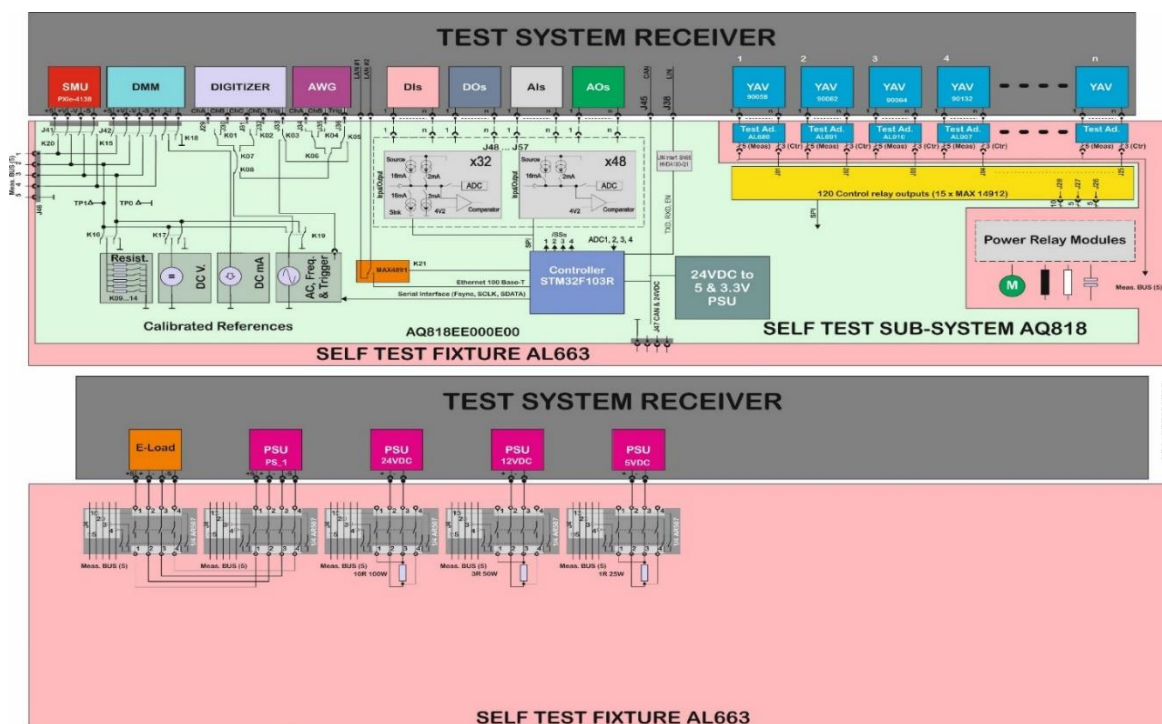
All that hardware runs with the 6TL ATE Diagnostic software that performs the diagnostic run procedure, which starts with a check of

the test platform control computer (CUP check through Ethernet) and a basic measurement instrumentation calibration check (DMM and optionally a Digitizer, since they will be the master to check all the resources).

If this first step is OK, all the remaining test platform resources can be tested: measurement, stimulus, I/Os, switching and communication channels. The software includes all the switching modules (in YAV modules also operations history in number of operations, short time between switching), contact resistance and expected operation life.

It is easily configurable according to the test platform requirements and supplied for different ITA frames.

- MM & Digitizer calibration check
 - Ohms (0,1%) 1R, 100R, 1K, 100K, 1M, 100M
 - DC Voltage (0,01%) 2V5
 - DC Current (0,01%) 4 mA
 - AC Voltage (0,5%) 10... 100 kHz 5Vpp
 - Functions: Sinus, triangle, square and 2 phase in quadrature
 - Trigger pulse output
- Analog and Digital I/Os
 - 32-Ch. sink-source (2 or 16 mA/4...24Vdc)
 - 48-Ch. source (2 or 16 mA/4...24Vdc)
 - 80 Voltage comparators at @4.2 V
 - 80:1 analogue signal multiplexer
- YAV adapter modules
 - Up to 25 test adapter multiplexing modules
- 50-Ohm SMA connectors for HF signals
- High current loads switching
 - Up to 16 High power external relays
- VPC modules compatible
 - Tripaddle: Signal, power and coax
 - Quadrapaddle
 - VTAC
 - Pneumatic
- 24VDC power input
- CAN bus up to 1 Mbps



Order information

Part Number	Supply contents
AL663	Test Platform Diagnostic Fixture for ITA 9025, included 1x AQ818
AR545	Test Platform Diagnostic Fixture for ITA G12X, included 1x AQ818
AR546	Test Platform Diagnostic Fixture for ITA G12, included 1x AQ818
AR985	Test Platform Diagnostic Fixture for ITA S6, included 1x AQ818
AR951	Test Platform Diagnostic Fixture for ITA 6TL-08, included 1x AQ818
AS306	3-Axis Geometry check kit
AR680	NRE for integration works and wiring
AM117	NRE Test strategy and script design *
AR547	NRE Executive Routines Writing
*Does not apply when there is a clear customer specification	

Applications

- Test platforms (ATE) automatic diagnostic

Executive routines writing

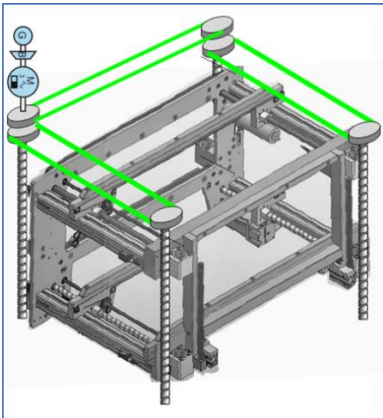
The diagnostic program consists of very different types of routines. The testing routines of the switching relays of the YAV cards do not require intervention in test system instruments not manufactured by 6TL. However, for the verification of all the other instruments, the self-test system requires the execution on them of commands that lead them to the desired states for functional verification.

Before listing these routines, 6TL engineering must have all the programming manuals for the instruments involved and evaluate the cost of each of the routines. Another way for 6TL is to define the necessary commands at no additional cost and these are implemented by expert customer personnel.

Axis geometry check kit AS306

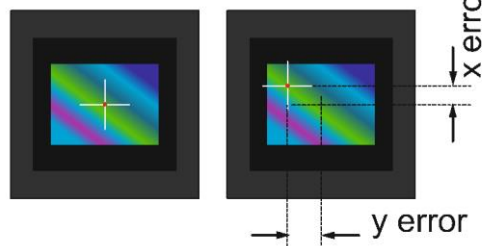
In test machines with a pressure system based on four precision ball spindles, a perfect parallelism of the pusher plate can be ensured.

After a belt change or an obstructed movement, there is a risk that a toothed belt has not been engaged in the corresponding tooth and therefore causes some misalignment in the plane of the pusher plate.

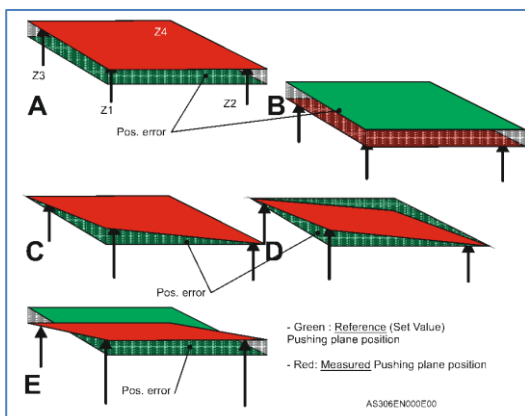


The AS206 system works with four position sensors for the four corners of the fixture and two laser beams, mounted diagonally, pointing to the center of the CCD cameras.

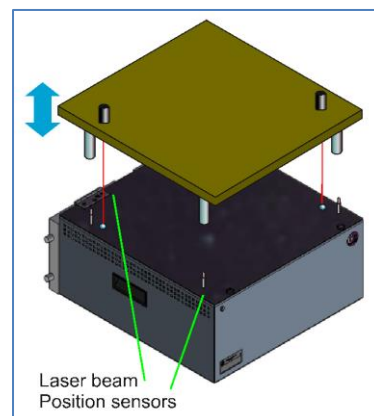
Laser Spot: $D=0,2 \text{ mm}$
 CCD Array: $2752H \times 2004V$
 Pixel: $2 \times 2 \text{ }\mu\text{m}$



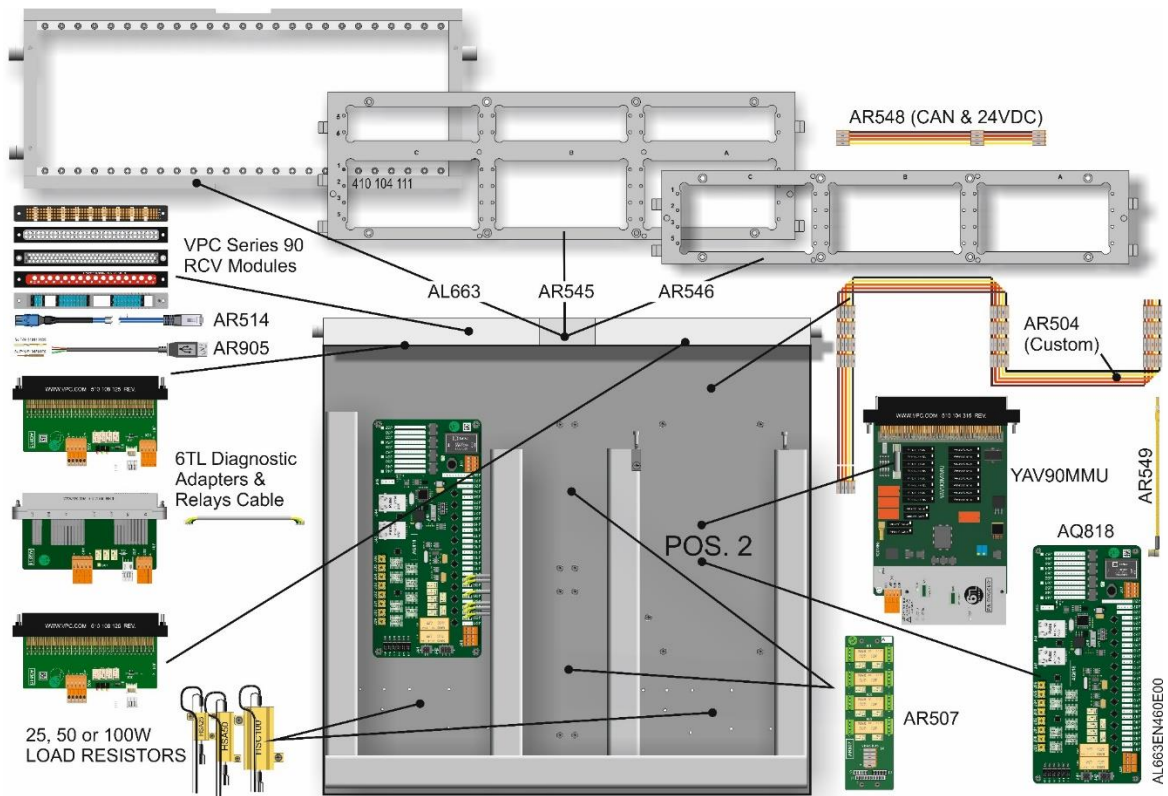
There can also be backlash in the needle bed and pusher plate fittings and thus decrease the precision of the fine pitch contacts.



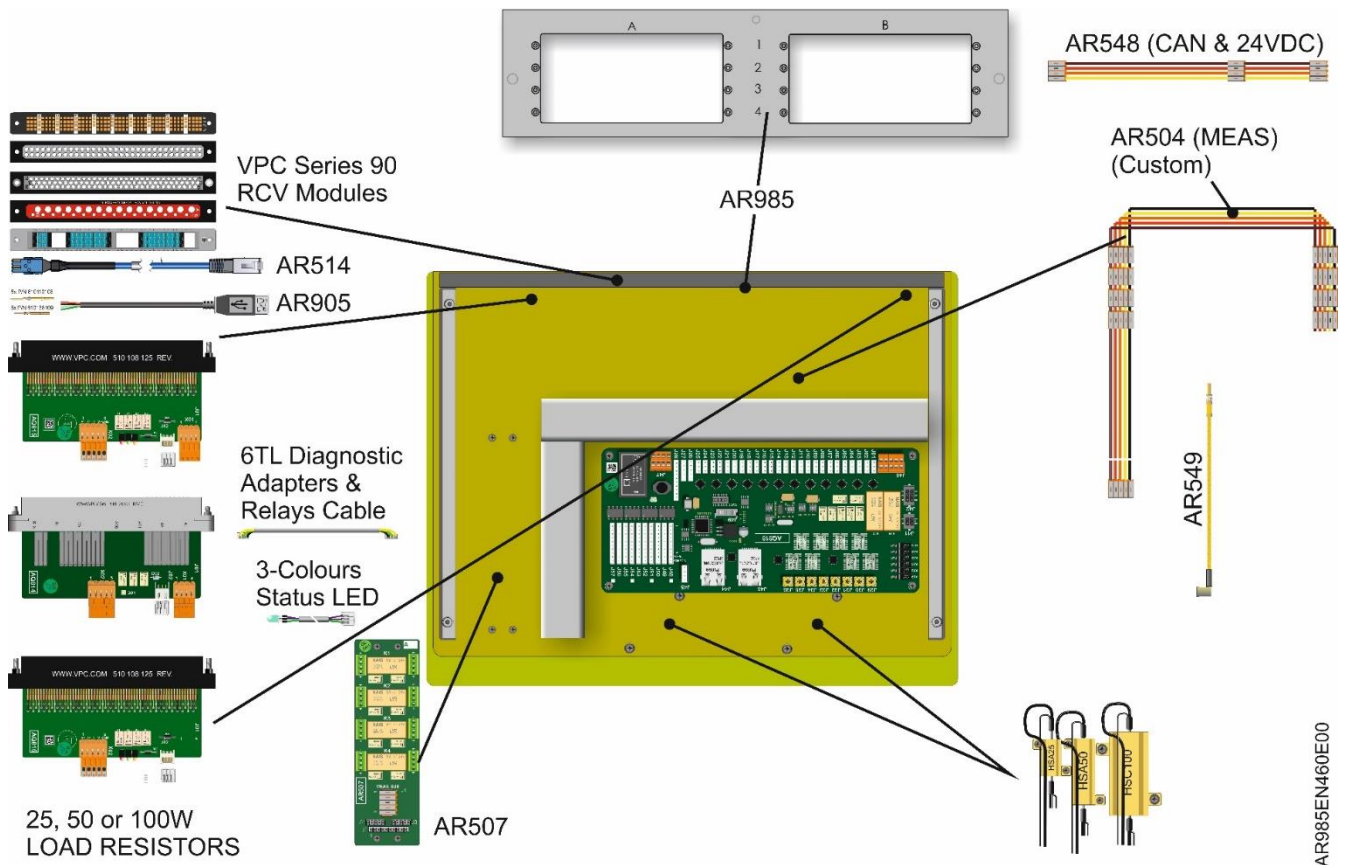
With the AS206 set you get a quick measurement of the precision and accuracy values of the pushing system on the automatic test platforms.



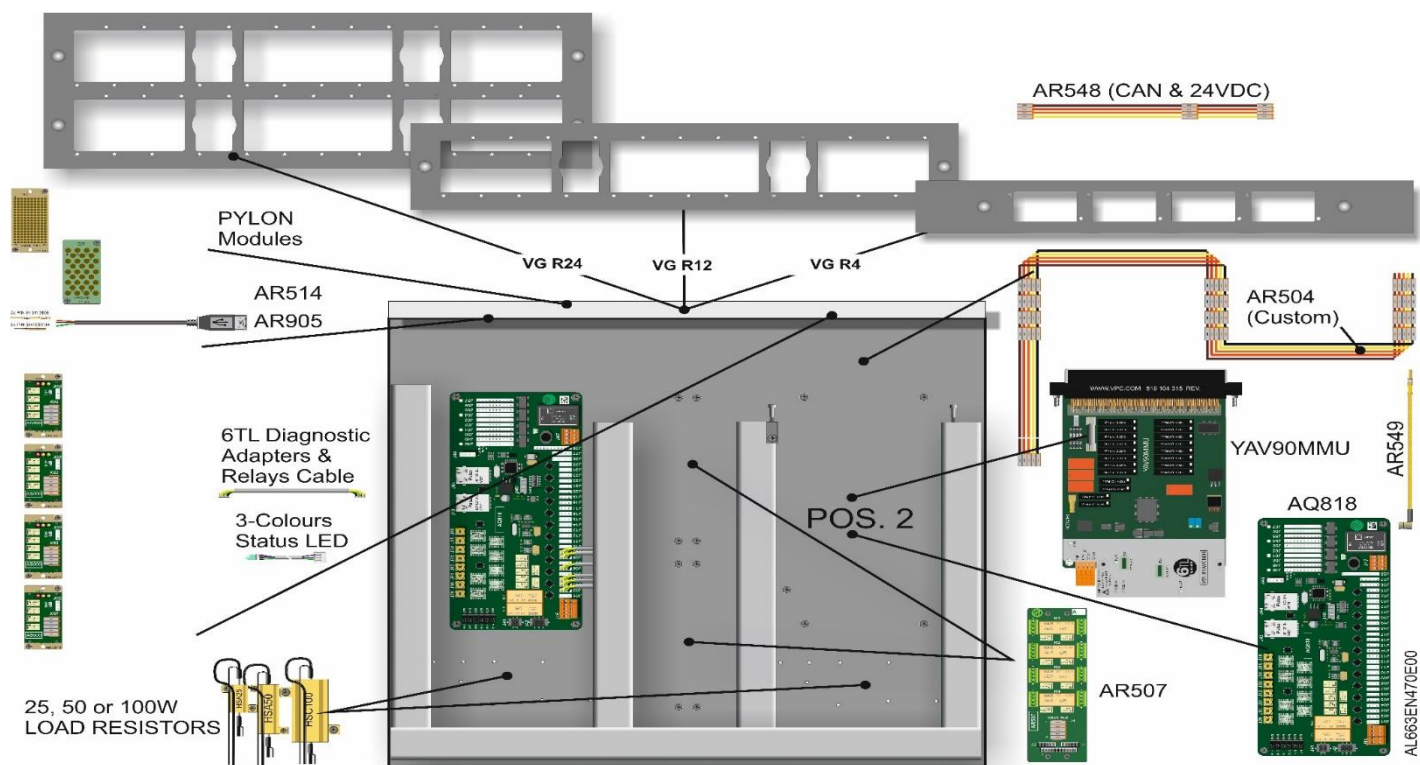
Configuration map (AL663, AR545, AL546, AR985)



Configuration map (AR951)



Configuration map (PYLON)

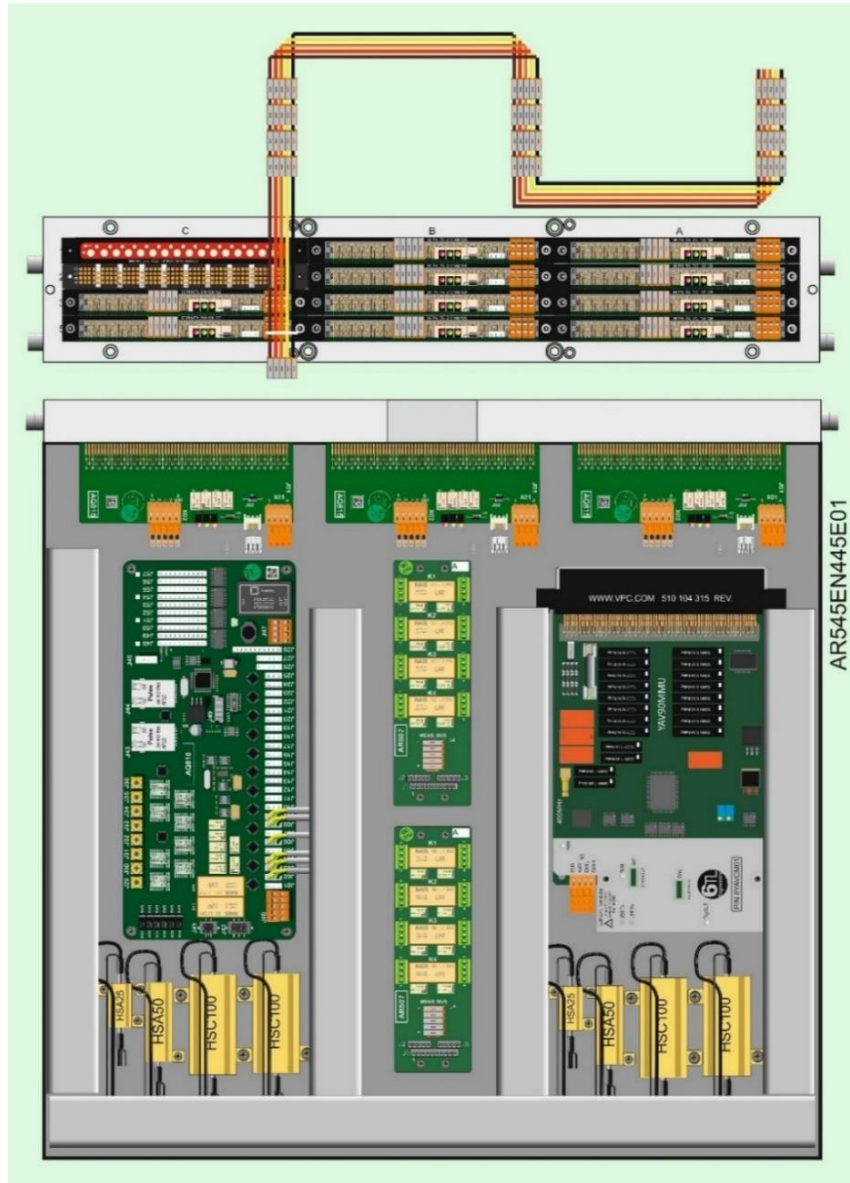


Spare parts and related products

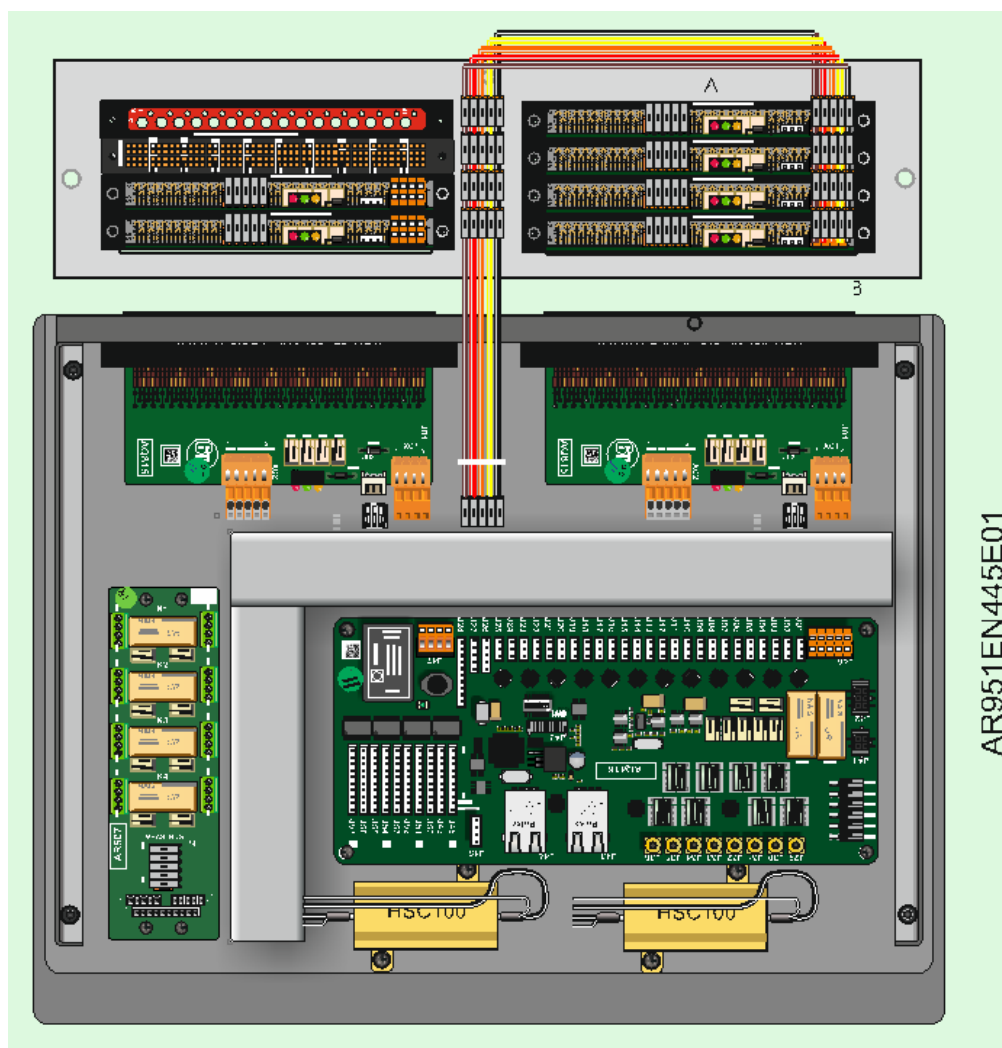
Part Number	Supply contents
VP510108101	ITA Module Tripaddle Signal 64 pins
VP510108126	ITA Module Tripaddle Signal 96 pins
VP510108178	ITA Module Tripaddle Signal/Mini Power-Pneumatic-Mini Coax 16/16 pins
VP610110108	Tripaddle ITA Signal contact
VP510108262	ITA Module Tripaddle Micro Power/Micro Coax.
VP610143101	ITA Contact Micro Power
VP510151105	ITA Module Quadrapaddle Signal 192 pins
VP610138109	Quadrapaddle ITA Signal Contact
VP510108262	ITA Module Quadrapaddle Micro Coax 50 Pos
AR549	ITA Patchcord Micro-Coax to MCX RG316 300mm
AR905	ITA Patchcord Tripaddle/Quadrapaddle to Socket USB 2.0
VP510171101	ITA VTAC Module
AR915	VTAC Pass-Thru Insert Bundle
AR514	ITA VTAC Ethernet Cat 6, 2 Pos. Patchcord 36" 7-141893694-036
YAV90MMU	Multi-Measurement Unit
AQ818	CAN Controlled Calibration module (Second unit)
AR507	4-Ch 4-Pole 4A Power Supplies and Electronic Loads CAN Bus controlled Meas.Module
J90USBR	Interface RCV Tripaddle to USB 2.0
00217300	Pen Drive Test
AQ504	27R 25-W Power resistor (Other Ohms values must be specified)

AQ508	47R 50-W Power resistor (Other Ohms values must be specified)
AK480	15R 100-W Power resistor (Other Ohms values must be specified)
	ITA Diagnostic Adapter Modules (6210/95...97)
AL904	YAV90CIN 12-Ch. Power Relay
AL682	YAV90057 160-Channel 1,2 or 4-Mux.
AL680	YAV90058 1 to 8 Ch. Gigabit Mux
AL687	YAV90059 64-Channel 2-Wire Mux
AL906	YAV90060 2x Two-Pole 4x16 Matrix
AL689	YAV90061 32-Ch DPDT Relays
AL691	YAV90062 2x One-Pole 4x32 Matrix
AL684	YAV90063 32-Channel 2-Wire Mux 5A
AL910	YAV90064 96-Channel STST
AL690	YAV90069 4x Two-Pole 2x16 Matrix
AL685	YAV90074 48-Channel SPDT Relays
AR973	YAV90096 96 Sink Source I/Os
AL911	YAV90G10 6 GHz 50-Ohm Mux
AL681	YAV90128 128-Channel 200V Mux.
AL907	YAV90132 32-Ch 5A Relays
AL912	YAV90164 64-Ch SPDT Relays
AL683	YAV904X8 32-Channel 2-Wire Mux.
AL688	YAV90416 64-Channel 2-Wire Mux.
AQ815	YAV90832 80 I/Os Multifunction
AL913	YAV91616 Audio & Video Mux
AL685	YAV91074 48-Channel SPDT Relays
AL909	YAV91501 2,5 GHz 50-Ohm Mux.
AL905	YAV91750 2,5 GHz 50-Ohm Mux.
AL905	YAVAM308 2,5 GHz 50-Ohm Mux.
AQ814	YAVAQ809 Communications Multiplexer
YAVMMUCK	YAV90MMU Multimeter w/scanner
AR481	YAV90HVT 2x16 1500V Matrix Hipot
AR483	YAV90096 2x32 1500V Matrix
YAV90PNT	YAV90PNE Pneumatic Sub-System
AR663	510104123 Mini Pneumatic 19 contacts
AR972	YAV9JTAG Boundary Scan Resources Unit
AS329	NI Modules (Configurable)
AS330	AR789 LEDs Analyzer Test Adapter
	<i>*Parts not listed under request</i>

Application example for AR546 for ADAS



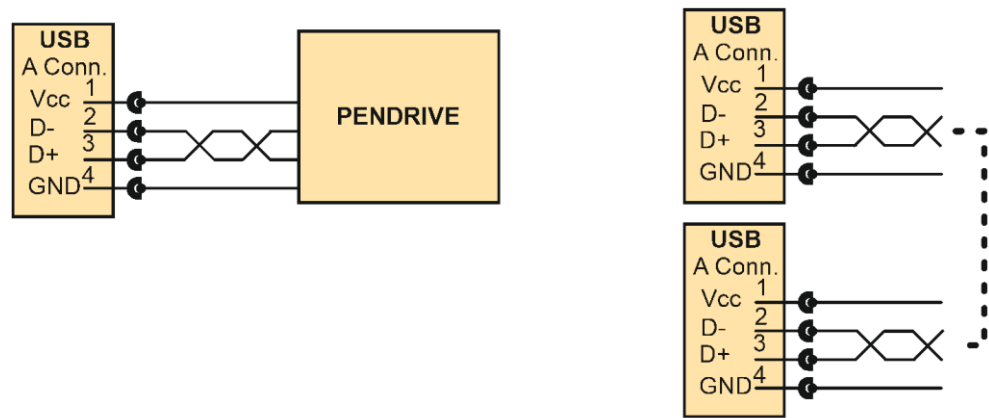
Application example for AR951 for 6TL-08 Platforms



Instruments and switching library

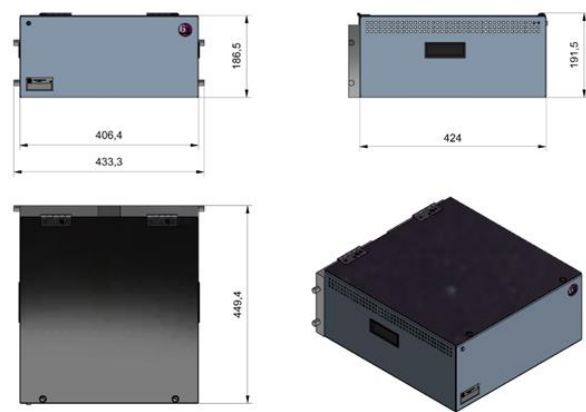
Instrument	Brand	Model	Interface	Method
DMM Multimeasurement Unit	6TL	YAV90MMU		
DMM PXIe	NI	AQ818		
4-bank, 4x32, 1 wire matrix 1A 30V	NI	PXIe 2532		
4-bank, 4x32, 1 wire matrix 1A 100V	Pickering	40-520-402		
16x16 2-wire matrix 2A 100V	NI	PXIe 2739		
16x16 1-wire matrix 2A 225V	Pickering	40-582A-001		
32 x 1 Multiplexer Max. 60W	NI	PXIe 2527		
Counter / Timer	NI	PXIe 6612	AS329	Loopbacks
32-Ch Analog Inputs	NI	PXIe 4303	AS329	AWG + Dif. Amplif.
32-Ch Analog Outputs	NI	PXIe 6738	AS329	Meas. w/AQ818
32-Ch RS232/RS422/RS485	Moxa	Nport 6650-32	AS329	Loopbacks

Self-test in Communication Buses and LVDS Signals

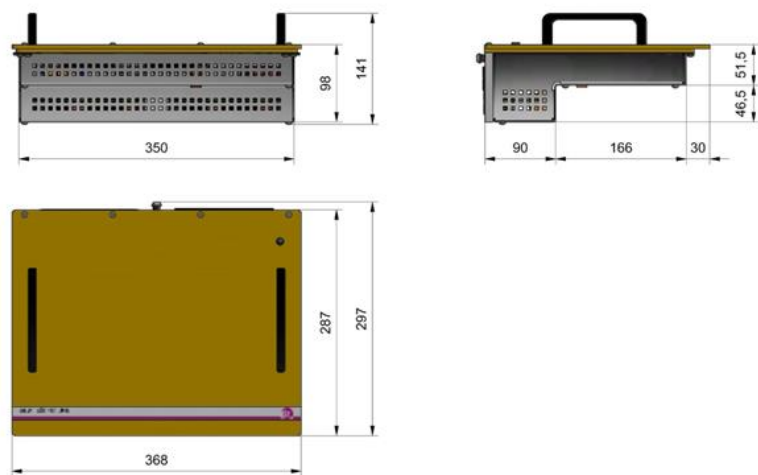


Only one port to the fixture Read data form a writing protected Pendrive.	More than one port Create a net and make read/write loopbacks
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Dimensions (AR663, AR545, AR546)

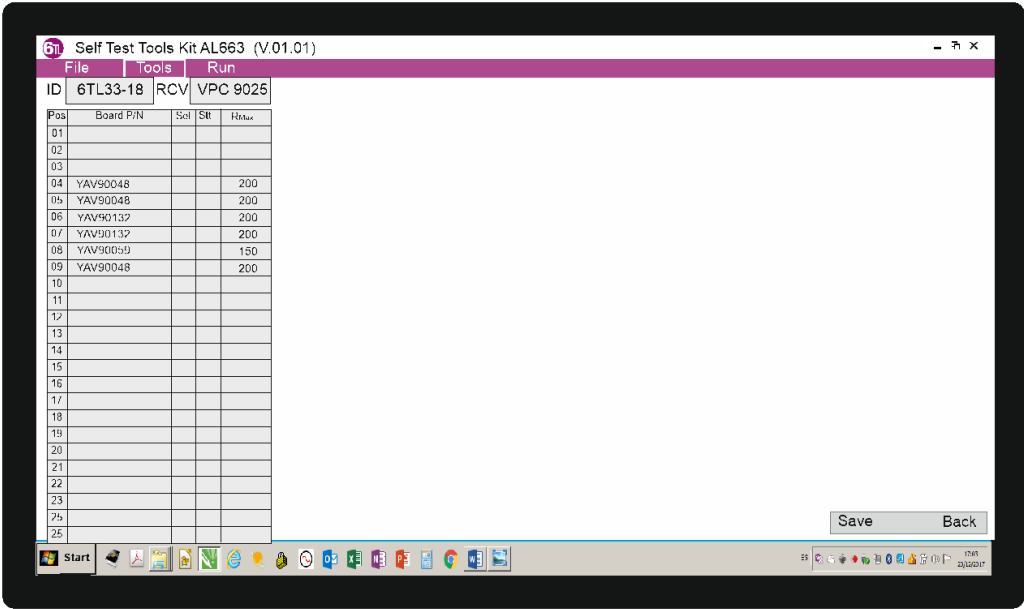


Dimensions (AR951)



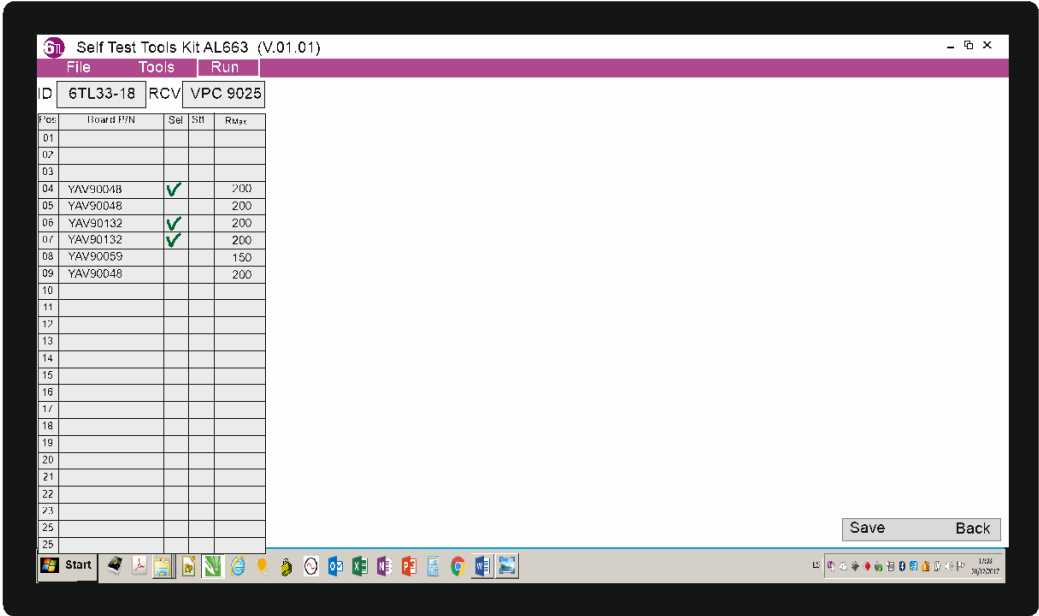
YAV Modules Self-Test Software AL663

Diagnostic fixture configuration



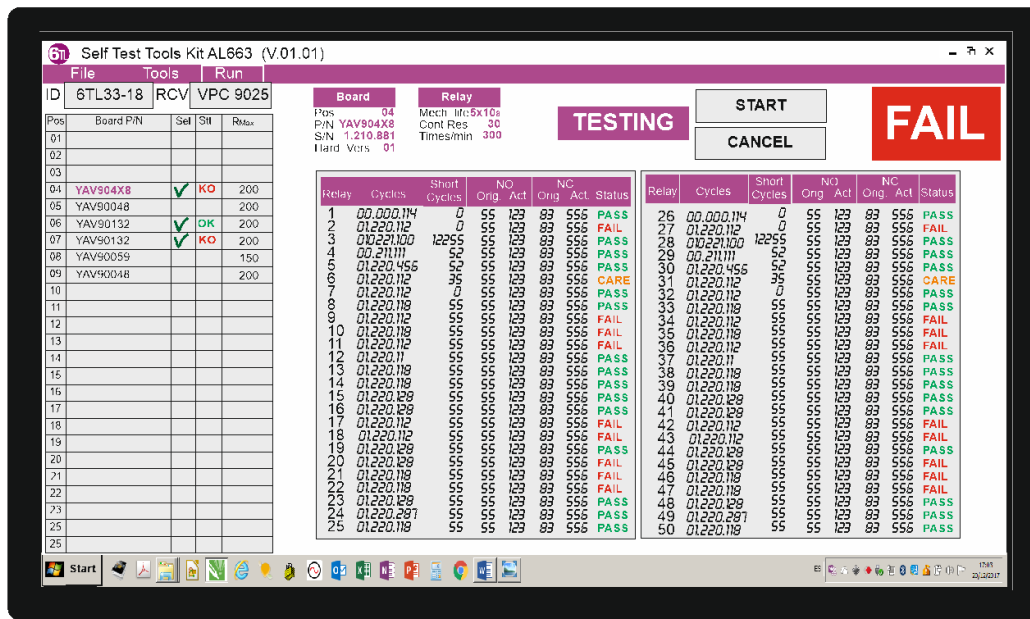
AL663EU700E01_3.1

Maximum contact resistance per relay type setting



AL663EU700E01_4.1

Diagnostic progress monitoring and boards results



AL663EU700E01_4.2

The diagnostic software tool shows, for each relay contact, the following information:

- Number of cycles
- Number of cycles within short interval
- Normal Open contact original contact resistance
- Normal Open contact actual contact resistance
- Normal Closed contact original contact resistance
- Normal Closed contact actual contact resistance
- Status according settings:
 - PASS
 - FAIL
 - CARE (Short remaining life or unbalanced stress)

Included Software Supply Limits

