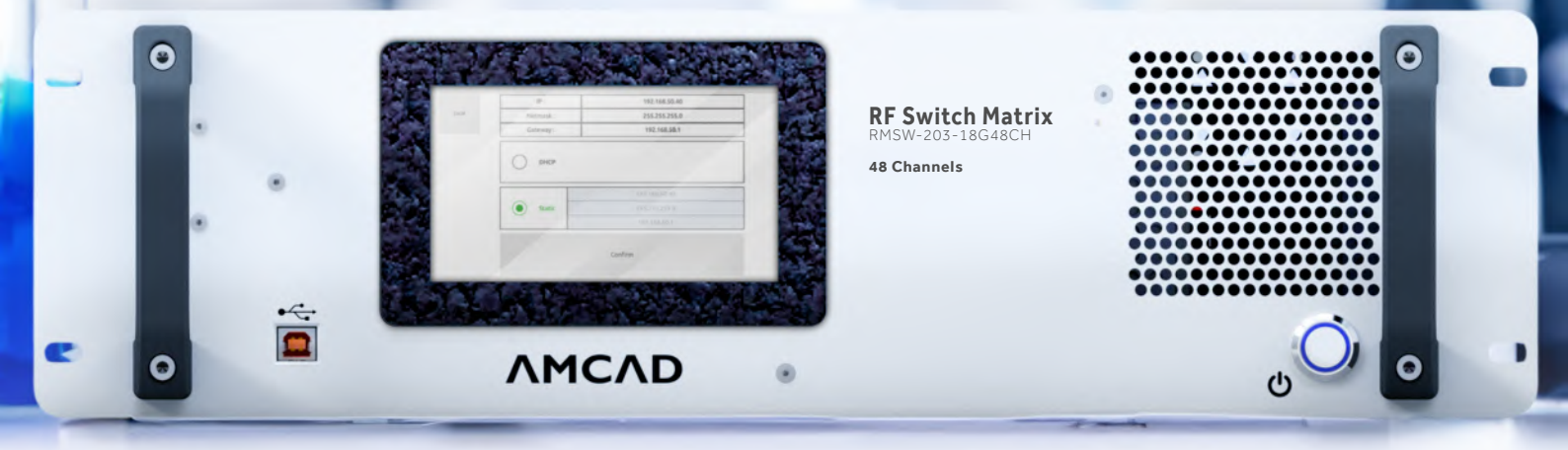
SWITCH MATRIX BROCHURE



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APPLICATIONS:

Switch matrices serve as a crucial instrument for managing RF signal pathways in environments where there is a recurring necessity to switch interconnections between systems.

The incorporation of Ethernet and USB interfaces, alongside adaptable software and APIs (application programming interfaces), enhances the utility of switch matrices, especially in automated test environments, such as RF test benches driven by IQSTAR software turnkey solution. This enables the scheduling of test sequences without manual intervention, facilitating seamless switching between various devices under test (DUT), input/output ports, and testing apparatus.

ADDRESSING YOUR NEEDS FIRST:

- **Ehernet / USB Remote control**
- **Simplified Setup:** Various hardware configurations with consistent software control streamline test process.
- **Reliability:** Realtime monitoring and built-in error report minimizes the risk of failures ensuring trustworthy results.
- **Easy Maintenance:** Quick access to switching building blocks facilitates the maintenance and minimizes the downtime.

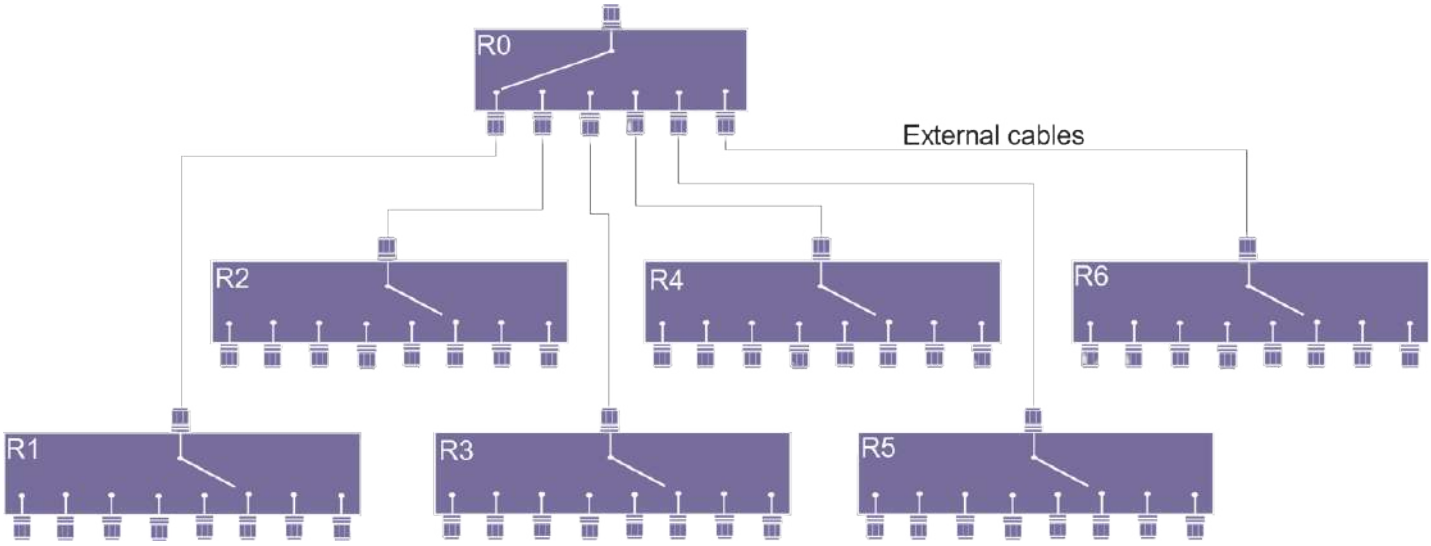
WHAT MAKES OUR SWITCH MATRIX SPECIAL:

- **User-friendly control:** Intuitive control using a web server or a touch screen
- **Versatile integration:** Solutions can be customized on demand and in the shortest possible time thanks to our modular design approach.
- **Space-saving design:** Our mechanical and electronic designs are compact, saving valuable space in the lab.

SWITCH MATRIX 48 CHANNELS MAIN FEATURES

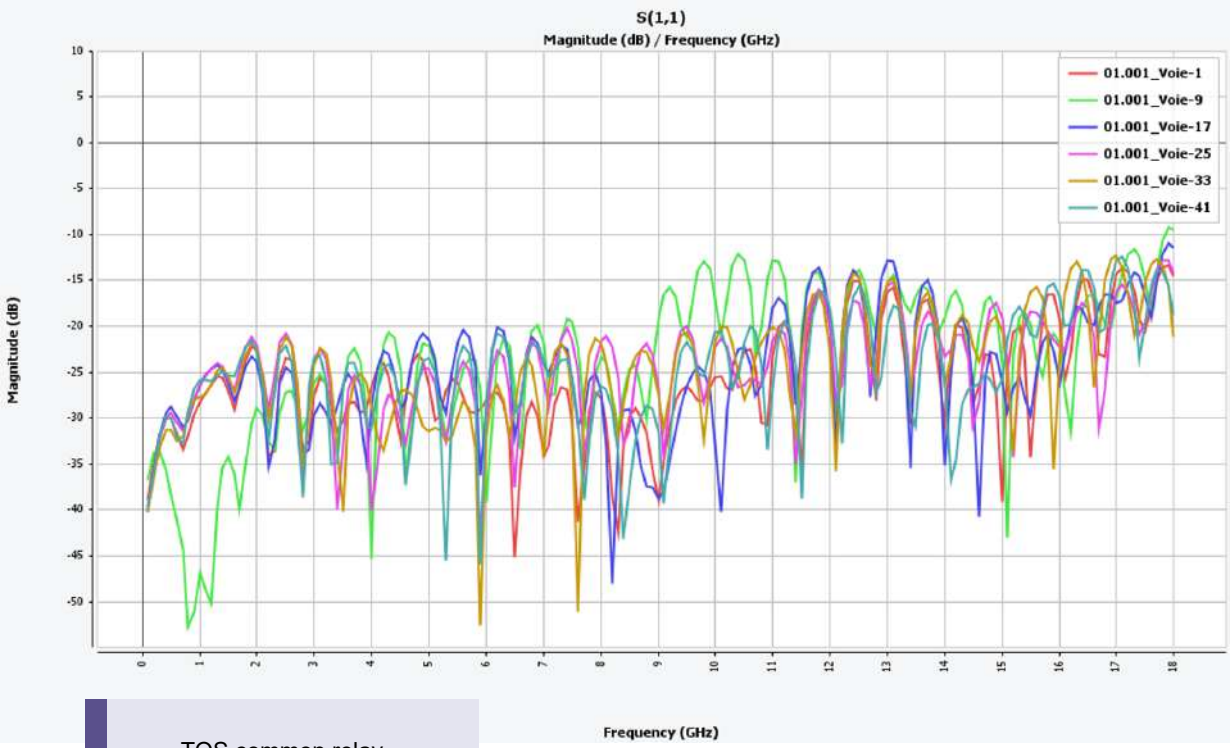
- 6 SP8T absorptive switches and 1 SP6T absorptive relay with indicators (SMA connectors).
- Wide bandwidth from DC to 18GHz.
- High isolation and low insertion loss.
- Checking indicators for reliability
- Counter on each relay that improves preventive maintenance.
- Removable rear panel to facilitate maintenance.
- 3U rack rugged design
- Main power line : 85-264VAC
- Ethernet and USBTMC communication (SCPI commands)
- Touch screen and Web server.
- High Input RF Power (100W)

RF Specifications SP48T

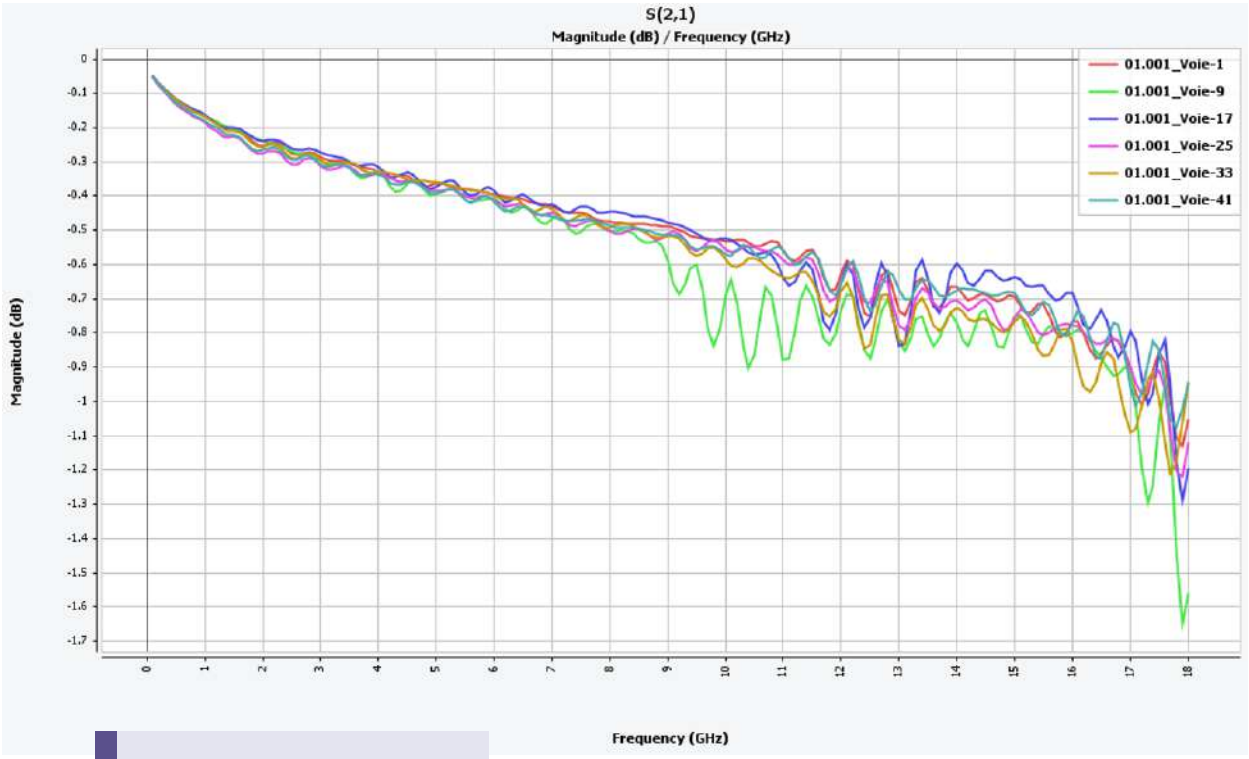


Parameter	Conditions(GHz)	Min	Typ	Max	Units
Frequency Range		DC		18	GHz
Input Loss	DC-8 8-12.4 12.4-18		-0.33 -0.6 -0.72	0.875 -1.65	dB
S11	DC-8 8-12.4 12.4-18	-52 -52 -57	-27 -24 -22	-19 -12 -9	dB
Isolation	DC-8 8-12.4 12.4-18	-76 -70 -73			dB
Return Loss	DC-8 8-12.4 12.4-18	-52 -52 -53	-28 -25 -23	-18 -12 -9	dB
RF Input Power(*)	Cold switching 1GHz 10GHz 18GHz			200W 100W 50W	W
Switch Lifetime			2		Millions cycles

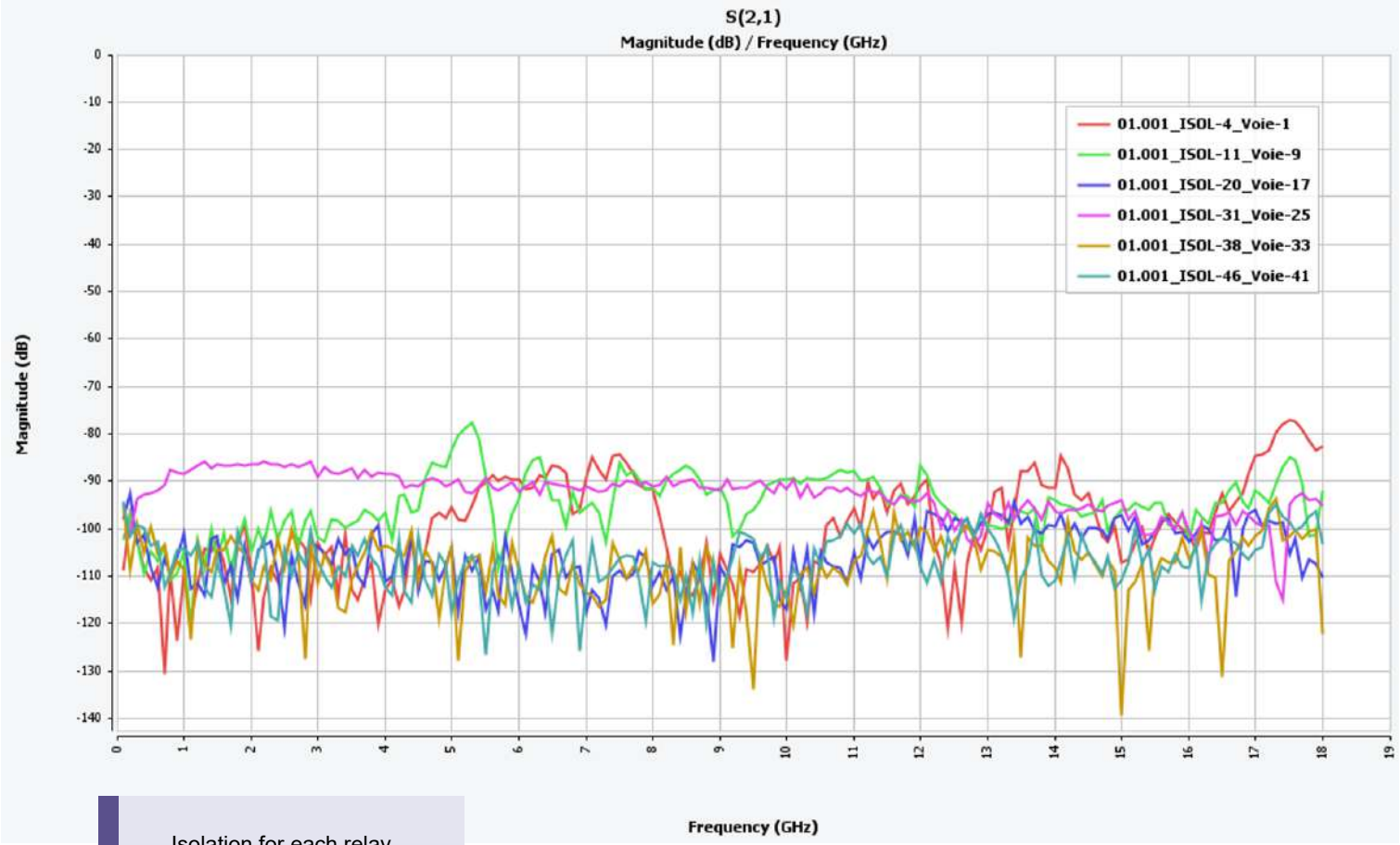
(*)1W per internal 50 ohms termination



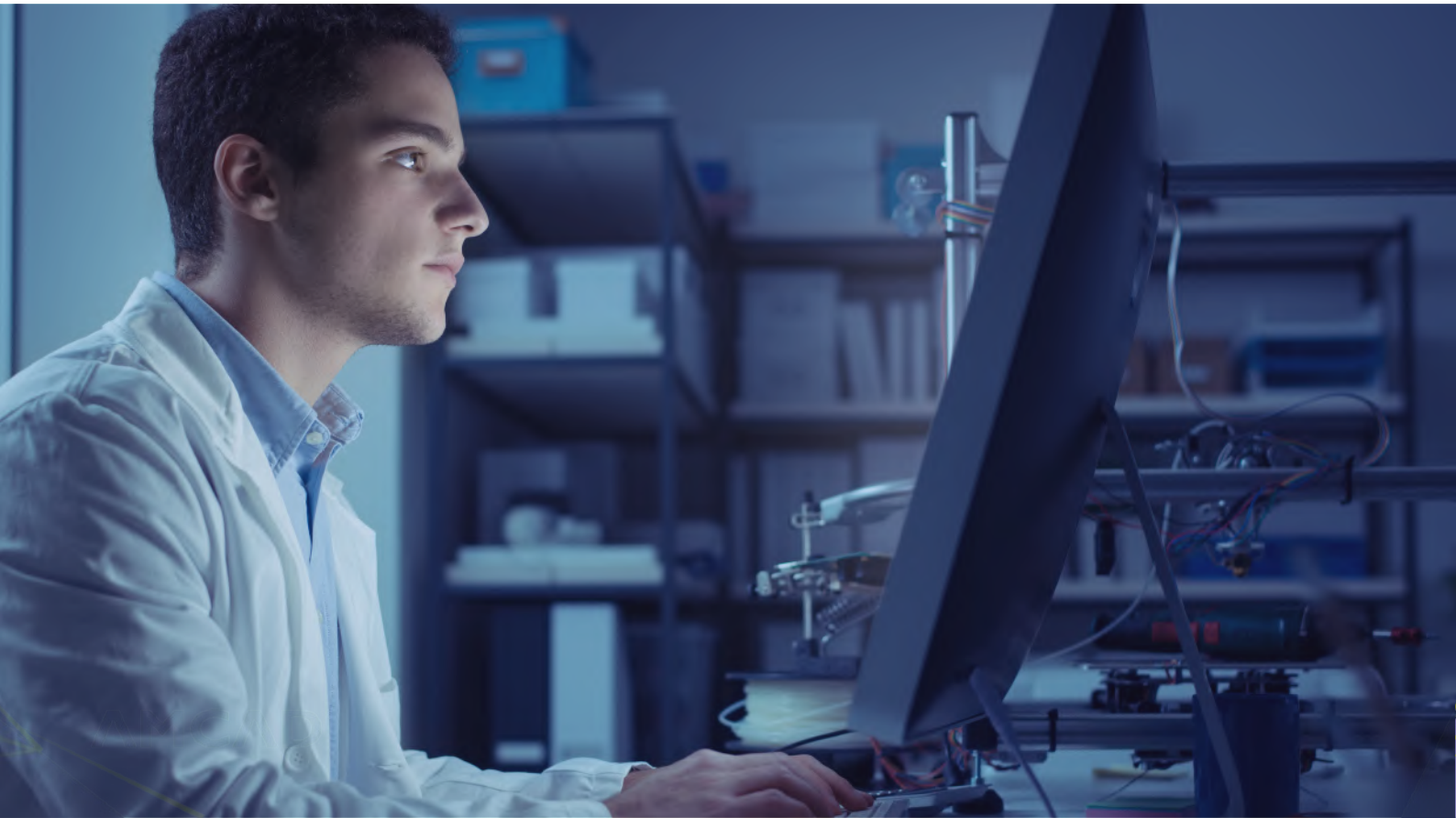
TOS common relay



Insertion loss for each relay

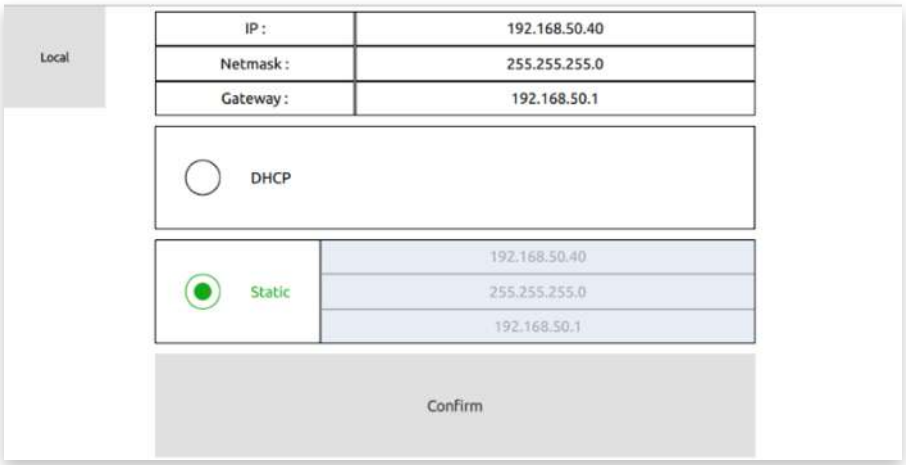


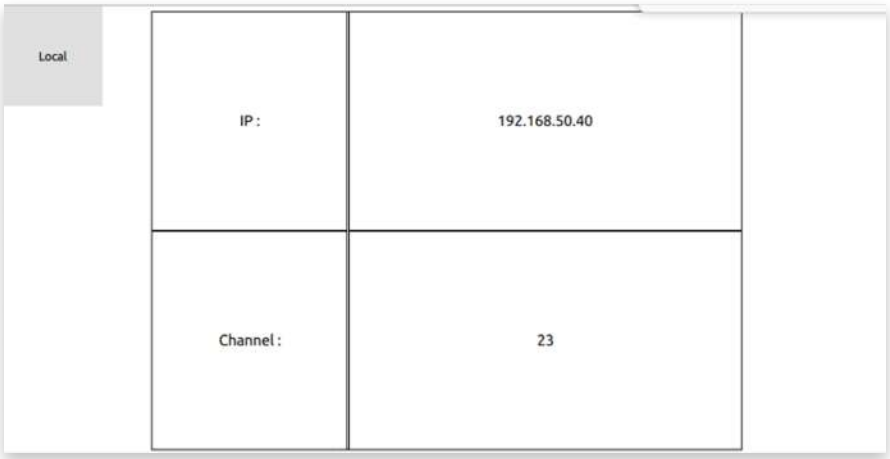
Isolation for each relay

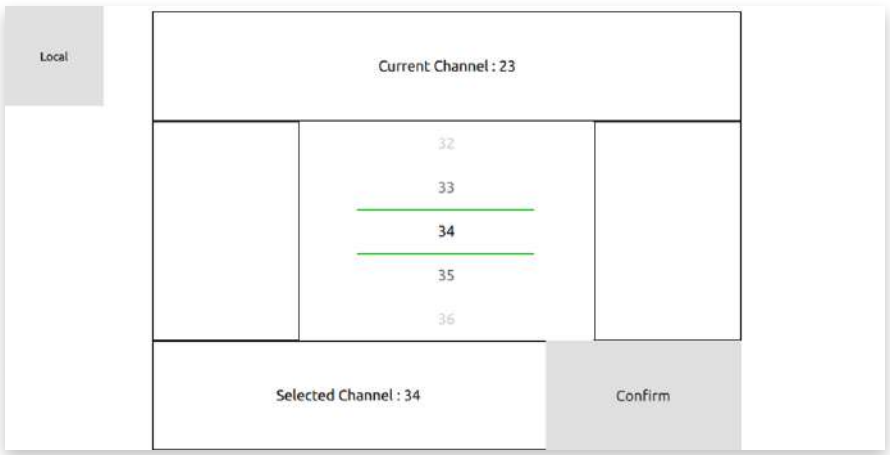


Local control

A touchscreen is used to display information and change the instrument's configuration.

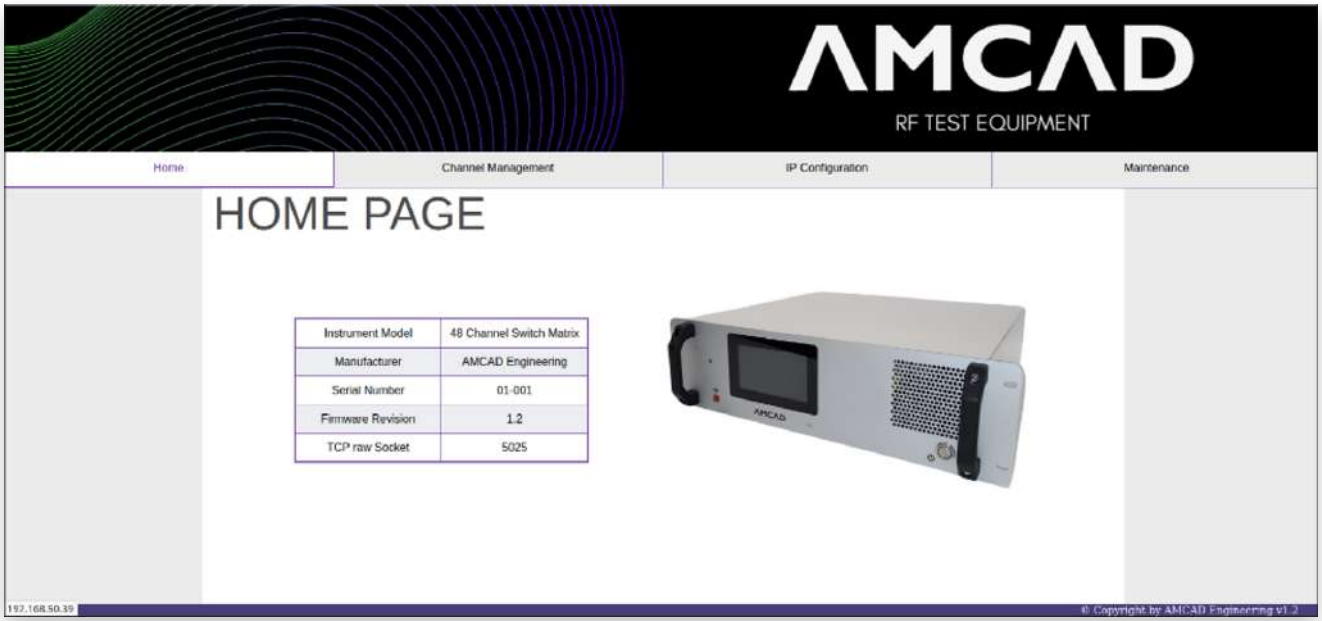


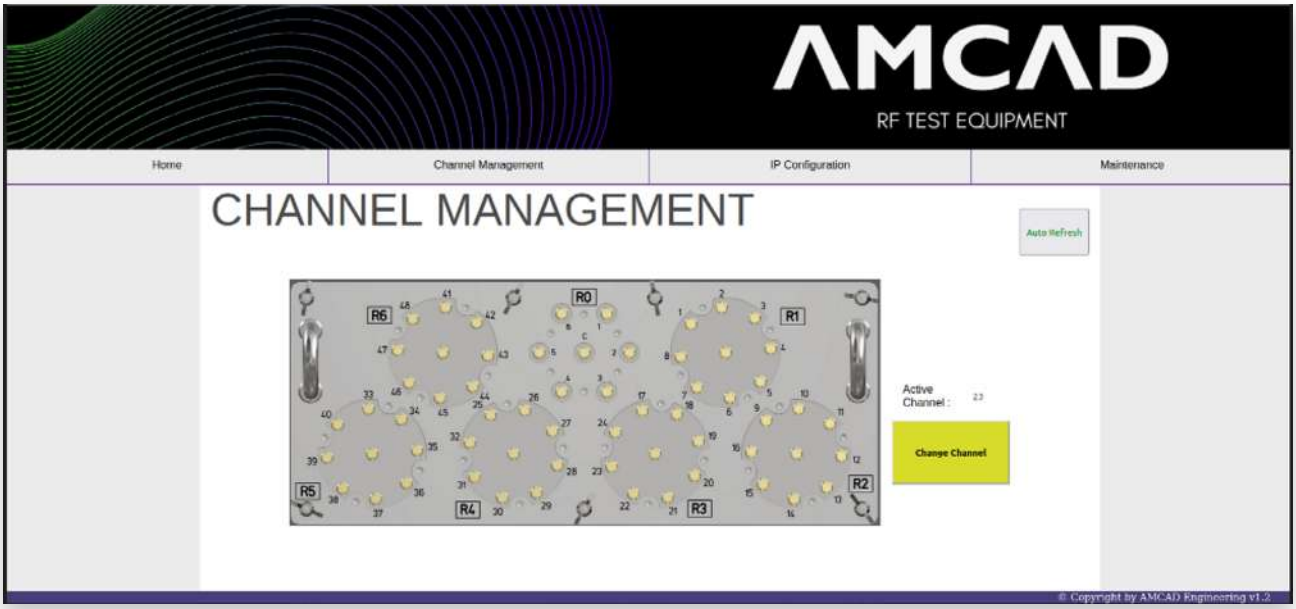




Remote control

A web server integrated into the instrument enables the system to be controlled from a computer using a simple web browser.





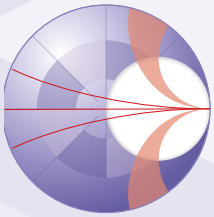
Programming control

This matrix uses the TCP/IP or USBTMC protocol to communicate remotely with a host.
The SCPI (Standard Command for Programmable Instruments) standard is used.
The instrument can host up to 20 clients in a local network.

SCPI	Description	Default
*IDN?	Returns identification "AMCAD ENGINEERING,RMSW-203-18G48CH V1.1,01-001,V1.0"	
*OPC?	Returns always 1	1
*RST	Resets the instrument	
*CLS	Clears the status register	
SYSTEM:ERROR[:NEXT]?	Returns the last SCPI error	
STATUS:QUESTIONABLE?	Returns the status register (see below)	

Matrix Positioning

SW:CHECK <bool>	Enables(1) or disables(0) the monitoring of the indicators	1
SW:CHECK?	Returns the state of the monitoring of the indicators	
RELAY:CHECK?	Returns the state of the monitoring of the indicators	
SW:POS <ch>	Changes the channel of the matrix (1 to 48)	1
SW:POS?	Returns the selected channel of the matrix	
SW:POS? MAX	Returns the number of position	48



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