Measurement System

ROTAS PC + TAS Front-End

User Manual ROTAS PC + TAS Front-End (TAS28, TAS28A, TAS48, TASnano)

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Thank you for choosing the ROTAS analysis system. Please read this manual carefully and follow the instructions before installing the analysis system.

Safety Notes

The system must be connected to a power ground via the power cable for operation. The system shall only be opened by electrically trained personnel. The mains power and USB must be disconnected before opening the system.

General Installation Instructions

Installation must be done by personnel trained to do electrical installations. Please refer to your local security guidelines. To avoid failures and to increase lifetime of the analysis system, make sure that the installation site meets the following criteria:

- It is not near other heat sources.
- It is not near a magnetic fields.
- It is not in a damp and / or dusty environment.
- It provides sufficient air supply for the front-side fan.
- It is in an environment free of aggressive chemicals.

Cable Installation Instructions

Proper grounding of the unit needs to be accomplished. The ground connection shall be done

- For the PC: using the power cable ground
- For a front-end TAS28, TAS48 or TASnano in connection with a ground free PC or laptop: Connect a ground wire to the front-end case. Use the TIS speed connector as a ground.

The signal cables need to follow these guide lines:

- Analog BNC cables need to be installed in grounded metallic cable trays for cable length of more than 2 m.
- The cable trays need to have a minimum distance of 50 cm to power cables with currents over 5 A and/or pulse content as in E-Drive power.
- For the TIS speed cables we recommend Discom supplied cables. If these are not available, make certain that the signal wires are (shielded) twisted pairs for the RS422 inputs and that the shield is connected to the TAS Box. The second side of the shield must remain unconnected. Otherwise, ground loops will disturb the signals or even damage the TAS Frontend.
- The maximum permissible cable length for any signal connection to the front-end is < 30 m.
- The USB cable between front-end and PC must be installed with a minimum distance of 1 m to power cables with currents over 5 A and/or pulse content as in E-Drive power. The maximum permissible cable length for the USB cable is 3 m. The USB-hubs on the front-end must only be used for measurement relevant devices (e.g., a CAN interface).

Front-End Power Supply Requirement

The TAS front-end needs to be connected to a dedicated power supply capable of driving 12V @ 1Amp. This power supply shall have no other loads connected. If a UPS is used for the measurement system, connect the Front-End Power supply to the UPS via the supplied adapter cable.

Service notes

For proper function of the system, please clean the front accessible air filter regularly.

Technical Specification (ROTAS PC V2.4)

CPU	Intel I7-10th Generation
Motherboard	Industrial ATX Motherboard, desgined for24/7 use 5x PCIE 3.0, 2x PCI, Onboard Audio, 6x SATA, 1x M.2, USB2.0, USB3.2,
Memory	2x 8GB DDR4
Video Ports	Dedicated Graphics: DVI, HDMI, VGA Onboard Graphics: 2xDisplayport, HDMI, VGA (onboard graphic has to be activated and driver installed)
SSD Operating System	1x 480GB SSD
HDD Data	2x 1TB HDD in RAID 1 Configuration
HDD Backup	1x 1TB Backup HDD (offline), + Onboard Rescue Boot Stick
Teststand Communication	2x RS232, 2x LAN, optional: CAN, ProfiNET; ProfiBUS
Housing	19” Rack mount, 4U(177,8mm), Depth: 335mm + 50mm for Cables Front: IP54; Front USB, Front Audio, Front Accessible Hard Disks Lockable Front Door
Power Supply	400W Industrial Power Supply, 90…264 V AC / 47…63 Hz
Energy Consumption	Typical: 120W Max: 250W
Environmental	Operating: 0…+45°C; 15...85% RH, non condensing Storage: -20…+70°C; 15…90 % RH, non condensing
Operating System	Windows 10 Pro or Windows 11 Pro

Technical Specification (TAS Front-End)

Dimensions	**TAS28, TAS28a:** 102.7mm × 230mm × 20.6mm
	TAS48: 102.7mm × 230mm × 48.7mm
	TASNano: 140mm × 60mm × 30mm
Electrical	**TAS28, TAS28a:** 12V DC / 1A
	TAS48: 12V DC / 1A
	TASNano: USB Bus Powered
Environmental	**TAS28, TAS28a, TAS48, TASnano:** Operating: 0…+45°C; 15...85% RH, non condensing Storage: -20…+70°C; 15…90 % RH, non condensing

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