COR-RiSTOR® Board

with 4 Sensor Connectors

-Data Sheet-

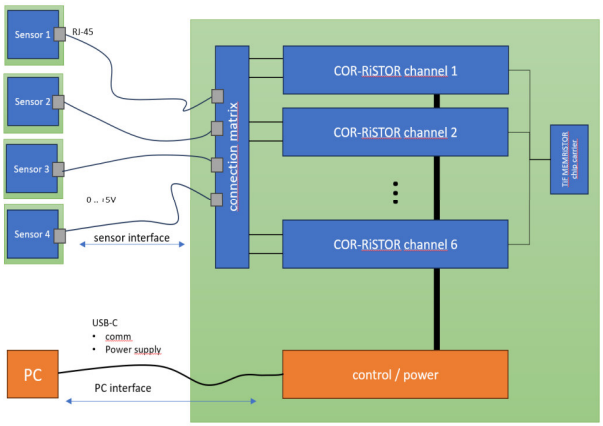
Description

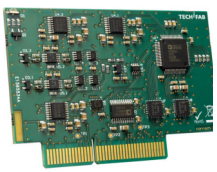
Single COR-RiSTOR® basic* with 6 TiF-MEMRiSTORs* to compute and analyze the correlation between one pair of sensor data A, B (in real-time, linear and non-linear).

The COR-RiSTOR® basic configuration contains 6 TiF-MEMRiSTORs on the TiF-MEMRiSTOR Chip.

The TiF-MEMRiSTOR computes the correlation of one sensor data pair in real time. COR-RiSTOR® basic is capable to verify a correlation of 2 sensor data chosen from sensor connectors A, B, C, D.

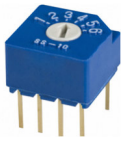
COR-RiSTOR main board with connectors

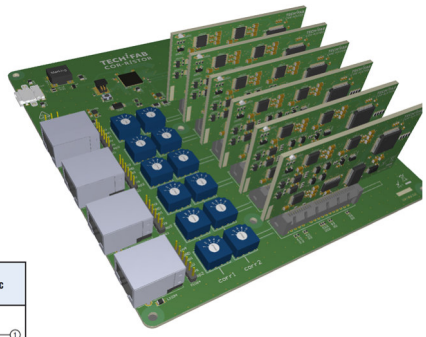




COR-RiSTOR Plug-In Card sets the configuration for the correlation between two sensors. COR-RiSTOR allows to pairwise correlate data of 4 sensors (A-D). Using in total 6 Plug-In Cards you will be able to determine 6 correlations from data of 4 sensors (AB, AC, AD, BC, BD, CD) in parallel.

Pairwise assignment of sensor data to a TiF-MEMRiSTOR for correlation computation will be made with rotary switches

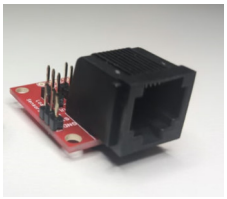




Series	Switching specifications	Schematic
SS-10-15SP-E SS-10-15SP-L-E	ON	

Select each correlation input from 4 sensor inputs.

Connect Your sensors (Sensor-PCB) via RJ-45-Cable.



Pin	Name	Comment	Assignment 10BASE-T POE
1	Signal	Sensor analog output, amplified/shifted to -0..+5V	TX+
2	GND		TX-
3		spare	RX+
4	6V	Supply amps, dedicated LDO on mainboard, subject to change level	POE 48V
5	3.3V	Supply sensor, most sensors require 3.3V, save LDO on sensor PCB	POE 48V
6		spare	RX-
7	GND		POE GND
8	GND		POE GND

Scope of Delivery

- COR-RiSTOR Main Board
- 1 Plug-In Card (additional ones can be ordered)
- 4 Sensor PCB (additional ones can be ordered)
- TiF-MEMRiSTOR Chip Carrier
- Software for Graphical User Interface (Windows)
- Housing (made of plastics)
- Quick Start Guide

GUI-Software COR-ReLATOR

Version: 1.0

Developer: TECHiFAB GmbH

Release Date: October 2024

Description:

COR-ReLATOR is a lightweight GUI Software for controlling and monitoring COR-RiSTOR board input, output, and sensor signal processing, saving results in .txt or .csv formats.

The main interface consists of Input fields and a Real time plots window.

Key Features:

Sensor setup: Quick setup of sensor amplifier gain, conversion from sensor output voltage to parameter value, name of the sensing parameter, COR-RiSTOR plug-in card selection

Memristor channel selection: Selecting the Memristor on the chip for particular COR-RiSTOR plug-in card.

Input voltage modifier: Change max. applied voltage for Memristor and Amplifier

Graphical visualization of output: Visualize real time I/O data.

Auto-Save: Automatically saves notes to prevent data loss.

System Requirements:

Operating System: Windows 10 or later

Processor: 2 GHz or faster

RAM: 2 GB minimum

Hard Disk Space: 500 MB minimum

Additional Requirements: Internet connection for updates, not necessary for installation.

Acknowledgements:

Special thanks to the open-source community for their contributions.

Disclaimer:

TECHiFAB GmbH is not responsible for any data loss.

Use COR-Relator at your own risk.