ROTEC TRAINING WEEK 2023

DATE	September 12th - 15th, 2023
LOCATION	VISPIRON ROTEC GmbH Joseph-Dollinger-Bogen 28 80807 Munich
REGISTRATION DEADLINE	July 14th, 2023
REGISTRATION FEE	1.995 EUR
INCLUDED IN FEE	3.5 days training program, training documents, beverages, snacks, lunch
PROGRAM	• Basic Training (one day) • Spectral and Filter Training (two days) • Practical Training (half day) (program subject to change)
LANGUAGE	English
HOTEL RECOMMENDATION	the niu Loco Frankfurter Ring 228 80807 Munich (2 mins walking distance) FourSide Hotel Frankfurter Ring 228 80807 Munich (2 mins walking distance) B&B Hotel München City Nord Frankfurter Ring 243 80807 Munich (5 mins walking distance)

BASIC TRAINING

- ✓ RASdelta measurement system: application areas
- ✓ What is torsional vibration?
- ✓ Measuring torsional vibration
- ✓ Measuring torsional vibrations - Sources of error
- ✓ RASdelta equipment: Hardware
- ✓ RASdelta measurement principle
- ✓ RASdelta software

  File Manager

  Measurement data
  - Restricting the time range of a measurement
  - Cursor function & determining the number of teeth
  - Correction of measurement

  Measurement settings
  - RASdelta "Choose Frontend" and "Configure Frontend"
  - Hardware wizard
  - General settings
  - Online graphics
  - Speed, Analog, CANbus, etc.

  Evaluation
  - Syntheses, Analyses, Extras, Diagrams, Pages
  - Evaluation examples
  - Edit layout

  Default settings

- ✓ Placeholder and Sequences
- ✓ Integration of measurement data from previous ROTEC system generations
- ✓ Question & Answer session

SPECTRAL & FILTER TRAINING

PART 1: SPECTRUM

✓ Basics of the spectral transformation

- Continuous, Discrete and Fast Fourier transformation
- Spectrum as a harmonic analysis
- How FFT works (Animation)
- Integral and derivative

✓ Specifics of the discrete Fourier transformation

- Leakage, Aliasing, Sampling transformation

✓ Specifics of speed signals

- Amplitude damping in speed measurement
- Reference of order spectra

✓ Spectrum in ROTEC evaluation

- e.g. Remove ramp (before FFT), Speed ramp filter, FFT window functions

✓ In-depth studies and additions

- Leakage and window functions
- Undersampling and aliasing

✓ Summation

- Summation in time domain and spectral domain
- Summation and FFT window functions

PART 2: FILTER

✓ Basic types of filters

✓ Filter characteristics

✓ Transfer behavior of typical filters

✓ Example for filtering a signal

✓ Filter without phase shift

✓ Filter operations with the ROTEC software

✓ Speed signals and filtering summary on the spectrum

PRACTICAL TRAINING

- ✓ ROTEC Laser Sensors (Laser Tachometer 3)
- ✓ ROTEC Speed Sensors
- ✓ Strain gauge application
- ✓ Temperature board application
- ✓ Grounding
- ✓ ROTEC ENGINEERING Demo Vehicle