

# CLIL UNIT

## LESSON PLAN LAYOUT

TOPIC	Thermal Resistors – Thermal Measurements
Timing (hours)	4 hours.
Class (School Type/school year)	High School – Technical School for Electronics and Mechanics <b>5 B - ITI</b>
UNIT/LESSON STRUCTURE	1 Unit
Subject content pre-requisites	<ul style="list-style-type: none"> <li>• Ohm’s Laws</li> <li>• Material properties of conductors</li> <li>• First degree equations</li> </ul>
Language content pre-requisites	<ul style="list-style-type: none"> <li>• Basic vocabulary of Physics and Electronics</li> <li>• Modal verbs, the Passive, Conditional forms (type 1 and 2).</li> </ul>
Learning Aims/Subject Content	<ul style="list-style-type: none"> <li>• Understanding the functions and applications of a thermal resistor.</li> <li>• Scanning datasheets to determine the device’s specs.</li> <li>• Being able to design a conditioning circuit.</li> <li>• Making comparisons between thermal resistors and other sensors.</li> <li>• Making comparisons between different units of measurement for temperature (Celsius/Fahrenheit).</li> </ul>
Learning Aims/Language Content	<ul style="list-style-type: none"> <li>• Learning new vocabulary.</li> <li>• Expressing the purpose (to, in order to, for).</li> <li>• Using the comparative forms.</li> <li>• Describing how to use a thermal resistor.</li> </ul>
ACTIVITIES	<u>Warm up:</u>

	<ul style="list-style-type: none"> <li>• Testing pre-requisites with open questions and written matching exercises.</li> </ul> <p><u>Body of the lesson:</u></p> <ul style="list-style-type: none"> <li>• Watching a video on YouTube on how a thermal resistor works; asking questions about the video to check if the students have understood the content; explaining the meaning of new words.</li> <li>• Looking at pictures taken from websites on the digital board while the teacher describes the device and interacts with the students for controlled oral practice.</li> <li>• Designing a conditioning circuit in the Electronics laboratory, using real devices and circuits.</li> </ul>
MATERIALS	<ul style="list-style-type: none"> <li>• Interactive Digital Board.</li> <li>• Internet connection.</li> <li>• Videos.</li> <li>• Pictures.</li> <li>• Power point slides presentation.</li> <li>• Real devices.</li> <li>• Electronics laboratory.</li> </ul>
ASSESSMENT	<ul style="list-style-type: none"> <li>• Written test with multiple choice questions (to assess if students have learnt the content).</li> <li>• Oral and written description on how thermal resistors and conditioning circuits work.</li> </ul>
REFLECTION	<p>We think that, in this lesson, students can develop knowledge of a new topic (Thermal Resistors – Thermal Measurements) and, at the same time, improve the four language abilities (listening, speaking, reading and writing skills). Furthermore, they can also develop some learning strategies, such as estimating, measuring and checking measurements, guessing from context, scanning, planning, solving problems, cooperating with others and summarizing.</p>