



# NIRWIM

**Intelligent wire quality control  
Real-time. Contactless. Reliable.**



**TAU** Industrial Robotics

[tauindustrialrobotics.com](https://tauindustrialrobotics.com)



Fast and precise optimization  
of the process parameters

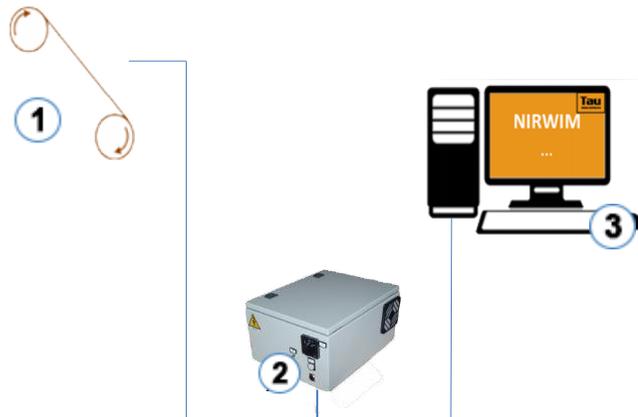


Constant monitor  
of the quality



Immediate feedback to reduce  
production start-up time

## Easy to use and implement



1 Non-destructive inspection with a near infra-red probe

2 Compact central unit, easily movable

3 Real-time remote quality control

## NIRWiM at a glance

NIRWiM is the quality and process control system which monitors the polymerization level in real time, on-line and without contact. In less than one second.

## Wire analysis should not be destructive

Before NIRWiM, the only methods to evaluate the polymerization level of magnet wire were slow and expensive laboratory tests (for example, Tan Delta testing). Using NIR spectroscopy paired with self-learning neural network algorithm, NIRWiM system reads the polymerization level continuously and without interfering with the production in any way.

## About Tau Industrial Robotics

Tau Industrial Robotics is committed to bringing intelligence to enamelling technologies. Our expertise covers the entire manufacturing process of insulated wire, from coating to curing, from the chemistry of insulating enamels to final product quality control. Our patented on-line control technology can be used to maximize the productivity of magnet wire enameling lines



5% additional productivity



Immediate feedback with 50% reduction in the production start-up time



75% reduction of expensive and time consuming sample testing performed in laboratory

## NIRWiM technical specifications

Wire speed range	0,5-2500 m/min
Probe distance from wire/bobbin	4-15 mm
Size range for single wire reading	≥2mm
Size range for spool reading	<2,5mm

## A closer look at NIRWiM technology

The NIRWiM technology uses NIR (Near Infra-Red) spectroscopy and self-learning neural network algorithm to control on-line the polymerization level of the insulating layer of magnet wire. Up to 8 probes can be applied after the curing oven or on the wire take up units, connected by optical fibers to the central unit which contains the central processing unit. The quality of the wire can be visualized by the operator on an interface screen and sent to the company's production management systems through the internal network.



## Power&Energy



NIRWIM

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