

Domain	Control and Instrumentation
Title:	Apply knowledge of speed (Velocity) Measurement
Level: 3	Credits: 2

Purpose

This unit standard specifies the competencies required to apply knowledge of speed (Velocity) Measurement. It includes demonstrating basic knowledge of Speed (Velocity) measurement, mounting speed (Velocity) devices, maintaining and servicing speed (Velocity) Measurement devices. This unit standard is intended for those who work in instrumentation industry.

Special Notes

1. Entry information
 - Prerequisite
 - *Unit I&C01 - Apply and maintain safety rules in Instrumentation and Control Workplace environment*
 - *Unit I&C02 - Plan and organise work in instrumentation work environment*
2. Assessment evidence may be collected from a real or a simulated workplace in which instrumentation operations are carried out.
3. To demonstrate competence, minimum evidence of installing at least on speed measuring device. Including cable identification and selection of cable types and sizes.
5. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' guidelines and instructions.
7. Glossary of terms:
 - *"specifications' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements*
 - *OEM- original equipment manufacturer*
8. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act 2007, No. 11, 2007
 - IEEE 518
 - Regulations relating to the health & safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007
 - And all subsequent amendments.
6. Performance of all elements in this unit standard must comply with industry standards.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and

moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Demonstrate basic knowledge of Speed (Velocity) measurement

Performance Criteria

- 1.1 Different types of speed (velocity) devices are explained.
- 1.2 Principles of operation and laws of physics are described.
- 1.3 Measuring SI units of speed are explained.
- 1.4 Relative Speed (Velocity) calculations are demonstrated.
- 1.5 Characteristics of the various Speed (Velocity) measuring devices described.

Element 2: Mount speed (Velocity) devices

Range

Speed devices such as tachometers, stroboscopes and proximity sensors

Performance Criteria

- 2.1 Tools and equipment are selected and used according to type, process application and engineered designs.
- 2.2 Mounting location and hardware is selected according to manufacturers' specifications and engineered designs.
- 2.3 Electrical wiring is terminated according to manufacturers' specifications.
- 2.4 Devices are configured and calibrated according to manufacturers' instructions.
- 2.5 Device operation is tested and verified using test equipment and procedures.
- 2.6 Configuration and calibration settings for future data recovery are backed up and documented.

Element 3: Maintain and service speed (Velocity) Measurement devices

Range

Maintaining and servicing may include but is not limited to cleaning, lubrication, tightening of loose parts and modification or replacement of faulty parts

Performance Criteria

- 3.1 Abnormality inspections are performed according to workplace procedures.

- 3.2 Functional checks of devices to confirm proper operation are performed according to workplace procedures.
- 3.3 Components are checked and serviced according to manufacturers' specifications.
- 3.4 Diagnostic tools are selected and prepared according to workplace procedures.
- 3.5 Probable root cause of faults determined and recorded in line with application datasheets and OEM Specifications and workplace procedures.
- 3.6 Calibration of devices are performed and verified according to maintenance specifications.
- 3.7 Required replacement components are selected according to codes and manufacturers' specifications.
- 3.8 Faulty components are removed and replaced according to workplace procedures.
- 3.9 Work area is cleaned and cleared according to workplace procedures.

Registration Data

Subfield:	Electrical engineering
Date first registered:	
Date this version registered:	
Anticipated review:	
Body responsible for review:	Namibia Training Authority