

- DNP3
 - IEC 60870
 - Labour Act 2007, No. 11, 2007
 - 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: Apply knowledge on earthing, grounding and shielding

Range

Performance Criteria

- 1.1 Cables and connections are selected based on application
- 1.2 Cable routing and screening requirements are implemented
- 1.3 Concepts on protection and filtering applied
- 1.4 Concepts on shielding requirement is applied

Element 2: apply knowledge on RS232 interface standard and RS485 interface standard

Range

Performance Criteria

- 2.1 RS232 and RS485 interface standard data terminal equipment are configured and set up
- 2.2 RS232 and RS485 interface data communication equipment are analysed
- 2.3 Troubleshooting techniques are applied

Element 3: apply knowledge on TCP/IP communication protocol and MODBUS protocols

Range

Performance Criteria

- 3.1 TCP/IP communication protocol and MODBUS protocol are configured and set up
- 3.2 TCP/IP communication protocol and MODBUS protocol equipment are analysed
- 3.3 Troubleshooting techniques are applied

Element 6: apply knowledge on DATA HIGHWAY PLUS (DH485)

Range

Performance Criteria

- 4.1 DATA HIGHWAY PLUS (DH485) are configured and set up
- 4.2 DATA HIGHWAY PLUS (DH485) equipment are analysed
- 4.3 Troubleshooting techniques are applied

Element 5: Apply knowledge on HART protocol

Performance criteria

- 5.1 HART protocol configured and set up
- 5.2 HART protocol equipment are analysed
- 5.3 Troubleshooting techniques are applied

Element 6: Apply knowledge on DEVICE NET protocol

Performance criteria

- 6.1 DEVICE NET protocol configured and set up
- 6.2 DEVICE NET protocol equipment are analysed
- 6.3 Troubleshooting techniques are applied

Element 7: Apply knowledge on PROFIBUS protocol

Performance criteria

- 7.1 PROFIBUS protocol configured and set up
- 7.2 PROFIBUS protocol equipment are analysed
- 7.3 Troubleshooting techniques are applied

Element 8: Apply knowledge on FOUNDATION FIELDBUS

Performance criteria

- 8.1 FOUNDATION FIELDBUS protocol configured and set up
- 8.2 FOUNDATION FIELDBUS protocol equipment are analysed
- 8.3 Troubleshooting techniques are applied

Element 9: Apply knowledge on I/O LINK

Range

Performance Criteria

- 9.1 I/O LINK configured and set up
- 9.2 I/O LINK equipment are analysed
- 9.3 Troubleshooting techniques are applied

Element 10: Apply knowledge on AS-I BUS

Range

Performance Criteria

- 10.1 AS-I BUS configured and set up
- 10.2 AS-I BUS equipment are analysed
- 10.3 Troubleshooting techniques are applied

Registration Data

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