

*Standards and
Assessment Guide*

**Intelligent Security
Technology**

Introduction

Welcome to the Standards and Assessment Guide (SAG), a comprehensive resource designed to support excellence in assessment practices for all skills competitions hosted at the WorldSkills Competition. A key component of the SAG is the commitment to continuous improvement through ongoing review, ensuring that these guides consistently reflect the latest industry innovations and high standards of assessment in an open and transparent manner.

Purpose

The primary purpose of this guide is to provide a structured framework for the consistent and fair assessment of each skill competition. It aims to ensure that all assessments are conducted with a high degree of accuracy, reliability, validity, and reflect global industry standards. By adhering to these guidelines, assessors can maintain the integrity of the competition and uphold the high standards associated with WorldSkills.

Note: this guide is not a replacement for the Marking Scheme and should only be used as a reference when required during the assessment process. Competitors are not allowed to have a copy of this SAG in the workshop in either digital or paper form.

Scope

This document covers general assessment practices applicable to a diverse range of industry sectors including:

- Manufacturing and Engineering Technology
- Information and Communication Technology
- Construction and Building Technology
- Transportation and Logistics
- Social and Personal Services
- Creative Arts and Fashion

Each skill competition has its unique requirements and benchmarks, which are detailed within sections of this guide. The consistency of assessment across each skill is the overarching principle, ensuring a unified approach to evaluating Competitor performance to the highest standards.

Key Components

The guide is structured into several key components, each addressing critical aspects of the assessment process:

Assessment Principles and Objectives

- Emphasis on fairness, transparency, and objectivity in assessments.
- Alignment with global industry standards and best practices.

Assessment Methods and Tools

- Description of various assessment methods in Measurement and Judgement.
- Guidance on the application of appropriate assessment tools and equipment (if applicable).

Criteria and Benchmarks

- Examples of assessment criteria and aspects for each skill, outlining the expected competencies and performance standards.
- Benchmarks for different levels of proficiency i.e. Judgement award range 0, 1, 2, 3 or Yes/No criteria alongside clear measurable descriptors.

Expert assessment requirements

- Completion of the Access Programme.
- Approved Curriculum Vitae (CV).
- Reaching **100%** Expert preparedness.
- Full participation of online and in-person Mandatory Assessment Training (MAT).
- Completion of practical assessment testing at the Competition.

Quality Assurance and Improvement

- Monitoring and evaluation: Ensuring assessments are carried out correctly and produce reliable results.
- Continuous improvement: Using feedback from Experts and Skill Competition Managers to enhance future assessments.
- Periodic review: Regularly updating processes to reflect current industry and WorldSkills standards.

Implementation

For effective implementation, this guide should be used for guidance purposes only and in parallel with the Technical Description for each skill. Experts are encouraged to familiarize themselves thoroughly with both the general guidelines and the particular requirements of their respective skill areas. Collaborative efforts between the Skill Management Team, Experts, and Competitors are vital for achieving the ultimate goal of global skills development.

Conclusion

The Standards and Assessment Guide embodies the commitment of the WorldSkills movement to nurturing talent and promoting the highest standards of vocational education and training worldwide. By providing clear and comprehensive guidance, we aim to empower Experts to conduct marking and assessment practices that are not only rigorous and equitable but also inspiring and transformative for all participants.

Thank you for your dedication to upholding these standards and contributing to the success of the WorldSkills Competition. Together, we can continue to champion skills excellence and celebrate the achievements of talented individuals from around the globe.

Skill 03

Measurement

Measurement is used to assess accuracy, precision, and other performance that can be measured objectively. It is used where ambiguity must be avoided.

The total marks allocated to measurement marking may vary from competition to competition depending on the Test Project.

Measurement is used when the aspect being assessed can be quantified objectively. It involves comparing performance against fixed, observable, and verifiable criteria, such as dimensions, quantities, times, tolerances, or the presence/absence of specific features.

- The result is factual, either correct or incorrect, within an allowable measurable tolerance.
- Example: A component is measured to confirm if it fits within a ± 1 mm tolerance.

Aspect	Sub Criterion name	Descriptor	Requirement
A2-1	Tension Fence Alarm Installation	Trigger column installed in the correct position (according to layout) and secured with 4 screws	
A2-2	Tension Fence Alarm Installation	Intermediate column installed in the correct position (according to layout) and secured with 2 screws.	
A2-3	Tension Fence Alarm Installation	Load-bearing column installed in the correct position (according to layout) and secured with 4 screws.	
A2-4	Tension Fence Alarm Installation	All four detection cables are installed correctly.	
A2-5	Tension Fence Alarm Installation	Proper use of the tensioner; detection cable is not loose. Use LED indicator to confirm proper tension.	

Aspect	Sub Criterion name	Descriptor	Requirement
C2-1	System Commissioning	Log in to the backend of the Intelligent Access Control System. Go to Access Control Management > Gate Access Control Management. Click the Add button to open the device adding pop-up window. Complete all gate access device parameter information according to the configuration requirements. After all parameters are correctly entered, take a screenshot of the complete adding configuration pop-up window for archiving.	(See reference 1)
E3-1	Temperature and Humidity Configuration	In the hierarchical object management of the Collection Service Configuration Tool, add and configure the temperature and humidity sensor IO device under Key Security Area. Configure: device name Temperature and Humidity Sensor, custom object type Physical Device, device model S80-A3-ATH02-S03, collection method Serial Port, COVT protocol library Version2, device address 1, serial port COM1, baud rate 9600, data bits 8, parity None, stop bit 1, head timeout 500 ms, tail timeout 100 ms, mode RS485, collection interval 3000 ms, collection timeout 1000 ms, error retry count 3, and power-off save interval 0 s. Save the screenshot as E-3-1.png.	(See reference 2)

REFERENCES.

Please consider the following notes about this information.

All the screenshots have been cut in order identify all data included. However, submitted screenshots must show the complete current full screen, and must not be cropped or covered by the competitor during competition.

Reference 1:

Screenshot file:

C-2-1.png. Device type, Device Name, Serial number, Switch port, Model, IPv4 and port is exactly as asked in TP. **ALL CORRECT**

Edit

* Device Type:
Access Gate Controller

* Device Name:
Gate Access Device
18 / 50

* Serial Number:
1K3053
6 / 20

* Switch Port:
8

* Model:
Entrance Terminal

* Ipv4:
192.168.3.91

* Port:
8000

Cancel
Confirm

Screenshot file:

C-2-1.png. Device type and Device Name are exactly as asked in TP. Serial number, Switch port, Model, IPv4 and port are not as asked in TP. **INCORRECT**

Edit

* Device Type:

Access Gate Controller

▼

* Device Name:

Gate Access Device

18 / 50

* Serial Number:

1K3056

6 / 20

* Switch Port:

9

* Model:

Entry

▼

* Ipv4:

192.168.3.20

* Port:

8005

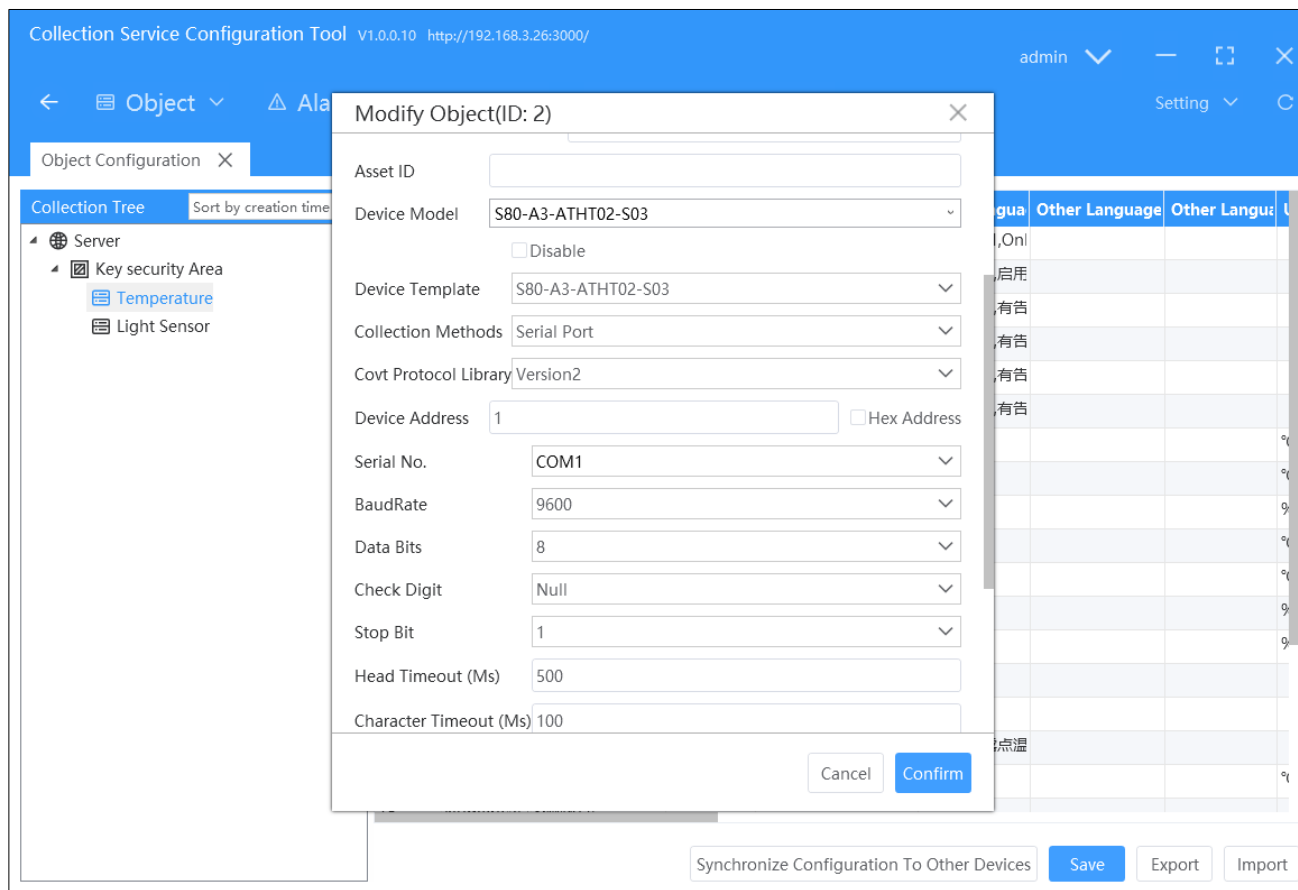
Cancel

Confirm

Reference 2.

Screenshot file:

E-3-1.png. Device model, Device template, Collection Methods, Covert Protocol Library, Device address, Serial Number, Baud rate, Data bits, Check Digit, Stop bit, Head timeout and Character timeout are exactly as asked in TP. **CORRECT**



Collection Service Configuration Tool V1.0.0.10 http://192.168.3.26:3000/

admin Setting

Object Configuration X

Collection Tree Sort by creation time

- Server
 - Key security Area
 - Temperature
 - Light Sensor

Modify Object(ID: 2)

Asset ID

Device Model S80-A3-ATHT02-S03

☐ Disable

Device Template S80-A3-ATHT02-S03

Collection Methods Serial Port

Covert Protocol Library Version2

Device Address 1 ☐ Hex Address

Serial No. COM1

BaudRate 9600

Data Bits 8

Check Digit Null

Stop Bit 1

Head Timeout (Ms) 500

Character Timeout (Ms) 100

Cancel Confirm

Synchronize Configuration To Other Devices Save Export Import

Screenshot file:

E-3-1.png. Any of: Device model, Device template, Collection Methods, Covert Protocol Library, Device address, Serial Number, Baud rate, Data bits, Check Digit, Stop bit, Head timeout and Character timeout is not as asked in TP. **INCORRECT**

The screenshot shows the 'Modify Object(ID: 2)' dialog box in the Collection Service Configuration Tool. The dialog is a white window with a blue title bar. It contains the following fields and options:

- Asset ID:** A text input field.
- Device Model:** A dropdown menu showing 'S80-A3-ATHT02-S03'.
- Disable:** A checkbox that is currently unchecked.
- Device Template:** A dropdown menu showing 'S80-A3-ATHT02-S03'.
- Collection Methods:** A dropdown menu showing 'Serial Port'.
- Covert Protocol Library:** A dropdown menu showing 'Version2'.
- Device Address:** A text input field containing '1'. There is an unchecked checkbox for 'Hex Address' next to it.
- Serial No.:** A dropdown menu showing 'COM2'.
- BaudRate:** A dropdown menu showing '9600'.
- Data Bits:** A dropdown menu showing '8'.
- Check Digit:** A dropdown menu showing 'Null'.
- Stop Bit:** A dropdown menu showing '1'.
- Head Timeout (Ms):** A text input field containing '500'.
- Character Timeout (Ms):** A text input field containing '100'.
- Buttons:** 'Cancel' and 'Confirm' buttons at the bottom right.

Judgement

Judgement is used to assess the quality of performance about which there may be small differences of view when applying the external benchmarks.

The Resources column in the table below may include all kinds/formats of resources such as: a link to a YouTube video, a website link, an illustration, a photo, a reference to a book, and so on. It needs to be as detailed as possible to show the differentiation between 0, 1, 2, 3.

Generic rules:

The assessment group comprises three Experts plus one Expert who acts as the supervisor. The supervising Expert will replace an Expert in the marking group to prevent compatriot marking.

The difference of the three Experts' scores may not exceed 1. If this is the situation the Experts must re-score until there is a maximum difference of 1. As long as the three Experts judge within 1, the result can be entered into the CIS.

The total marks allocated to judgement marking may vary from competition to competition depending on the Test Project.

Judgement is used when the aspect being assessed cannot be measured numerically but can be evaluated through observation of quality, appearance, or process. Judgement must be based on clear, pre-defined descriptors that describe observable levels of performance and remove ambiguity and personal bias.

- The result is qualitative but guided by specific descriptors (e.g. 0–3 scale) that define what each score represents.
- Example: The finish of a painted surface is evaluated using very clear descriptors for what 0,1,2,3 look like.

This is something to consider when developing the Marking Scheme.

Aspect B-1

According to the requirements of **Equipment Installation** Design Drawing.drawio located at Desktop\Exam Materials\Module B\Equipment Installation Design Drawing\Equipment Installation Design Drawing.drawio, complete the equipment installation on the assigned workstation. Cable routing and connection shall be completed strictly according to **System Connection** Design Drawing.drawio located at Desktop\Exam Materials\Module B\System Connection Design Drawing\System Connection Design Drawing.drawio. The entire installation process shall ensure that the equipment is securely fixed, accurately positioned, and correctly connected.

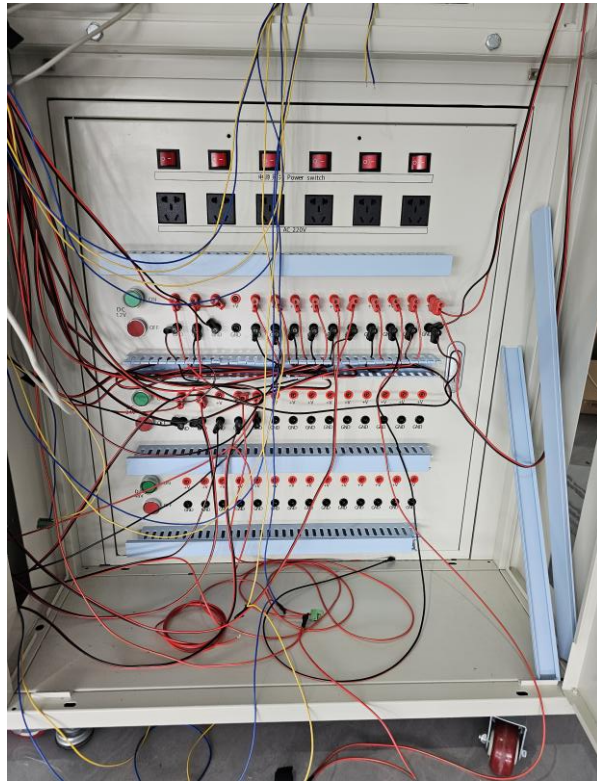
WSOS section as per TD	Score	Descriptor	Resource
Judgement Section 5 WSOS: Installation and implementation of security systems	0	Complete system installations accurately in accordance with construction drawings. If you observe: • No connection at all. • Connections and interfaces poorly executed. • Transitions very rough. • Instances of gaps. • Loose cables.	

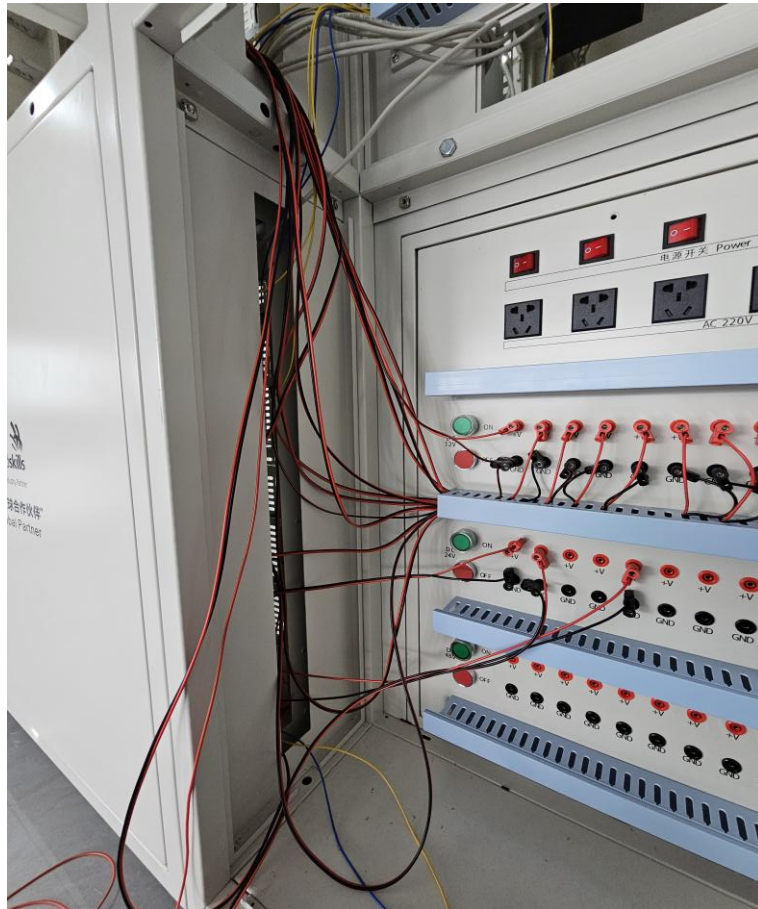
WSOS section as per TD	Score	Descriptor	Resource
	1	Complete system installations accurately in accordance with construction drawings. Important: Connection works properly and it is functional. But if you observe 3 out of 4: • Connections and interfaces have 2-3 issues. • Transitions rough in places. • Only 2-3 gaps or misalignments. • Loose cables.	
	2	Complete system installations accurately in accordance with construction drawings. Important: Connection works properly and it is functional. If you observe 2 out of 4: • Connections and interfaces have 2-3 issues. • Transitions rough in places. • Only 2-3 gaps or misalignments. • Loose cables.	

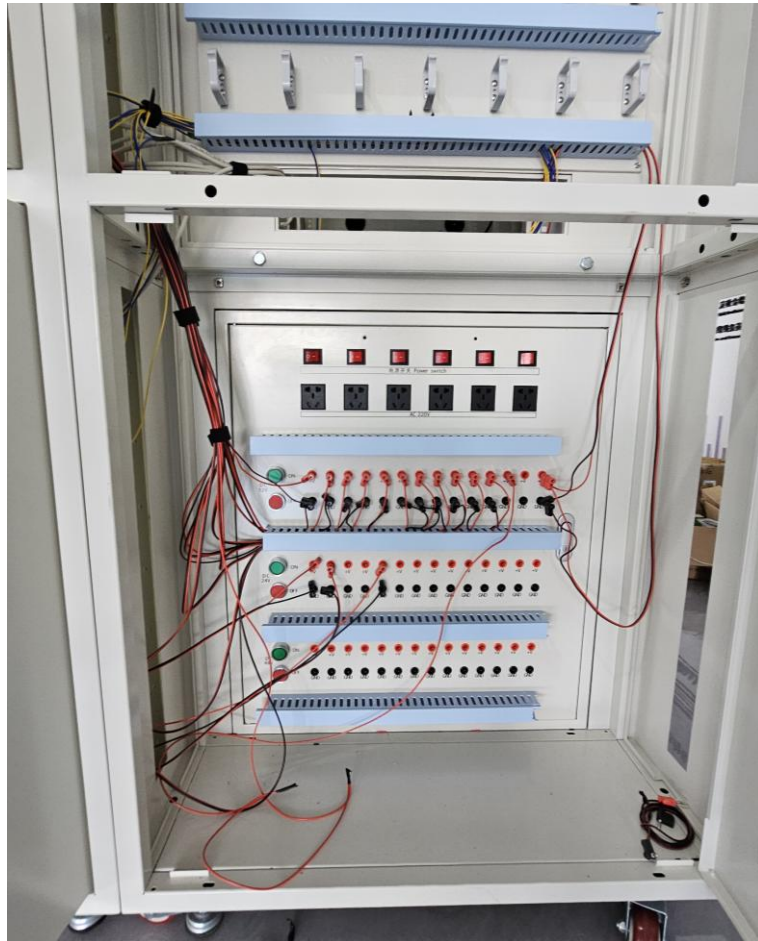
WSOS section as per TD	Score	Descriptor	Resource
	3	Complete system installations accurately in accordance with construction drawings. Important: Connection works properly and it is functional. • 100% of connections and interfaces executed perfectly. • Transitions are smooth. • No gaps or misalignments. • Professional execution.	

Aspect E-1.

The project has entered the first stage: infrastructure construction. The construction team has completed the cable trunking installation. As the on-site implementation person in charge, competitors shall complete the physical installation and cable termination of the core security equipment according to the Equipment Installation Design Drawing and System Connection Design Drawing provided by the design institute, ensuring the electrical connectivity of the physical links and laying the foundation for subsequent system commissioning.

WSOS section as per TD	Score	Descriptor	Resource
Judgement Section 5 WSOS: Installation and implementation of security systems	0	Use specialized instruments and meters to facilitate installation and ensure proper implementation. Not connected cable or if you observe: • Connections and interfaces poorly executed. • Transitions very rough. • ≥ 1 instances of gaps. • Wrong connection cable length. • Untied and loose power and communication cables.	

WSOS section as per TD	Score	Descriptor	Resource
	1	Use specialized instruments and meters to facilitate installation and ensure proper implementation. If you observe 3 out of 4: • Connections and interfaces poorly executed. • Transitions very rough. • ≥ 1 instances of gaps. • Wrong connection cable length.	

WSOS section as per TD	Score	Descriptor	Resource
	2	Use specialized instruments and meters to facilitate installation and ensure proper implementation. If you observe 2 out of 4: • Connections and interfaces poorly executed. • Transitions very rough. • ≥ 1 instances of gaps. • Wrong connection cable length.	

WSOS section as per TD	Score	Descriptor	Resource
	3	Use specialized instruments and meters to facilitate installation and ensure proper implementation. • 100% of connections and interfaces executed perfectly. • Transitions are smooth. • No gaps or misalignments. • Professional execution.	