

SZ-VH1

Safety Laser Scanner Head

KEYENCE SZ-VH1 is a standard safety laser-scanner head. It monitors programmed protection zones and supplies detection information to a compatible SZ-V safety controller.

PRODUCT SNAPSHOT

BRAND
KEYENCE

FAMILY
KEYENCE SZ-V safety laser scanner

PART
SZ-VH1

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PRODUCT OVERVIEW

KEYENCE SZ-VH1 is a standard safety laser-scanner head. It monitors programmed protection zones and supplies detection information to a compatible SZ-V safety controller.

1

Scans the configured protective field around machinery

2

Detects objects within the programmed safety zones

3

Transfers safety and status information to the paired SZ-V controller

4

Supports zone-based machine stopping and restart interlock logic

SYSTEM COMPONENTS

SZ-V controller unit

approved head cable

machine safety circuit

rigid protective mount

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
GT2-H32	High-accuracy digital contact sensor head	Open product page

TECHNICAL DATA

PARAMETER	VALUE
Head type	Standard
Laser wavelength	905 nm infrared
Laser classification	Class 1

PARAMETER	VALUE
Detectable angle	190 degrees
Degree of protection	IP65

SYSTEM CONNECTION AND ACCEPTANCE RECORD

RECORD ITEM	DOCUMENTED ASSIGNMENT
Installed host / carrier	SZ-V controller unit
Companion hardware	approved head cable
Field connection	machine safety circuit
Primary system function	Scans the configured protective field around machinery
Controlled acceptance duty	Robot-cell perimeter guarding

TECHNICAL NOTE

Mount SZ-VH1 where the complete protective field is visible, apply the safety-distance calculation, lock the configuration, and validate every zone, restart condition, and stop response before operation.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Robot-cell perimeter guarding

Scans the configured protective field around machinery

Automated guided vehicle protection

Detects objects within the programmed safety zones

Machine access-zone monitoring

Transfers safety and status information to the paired SZ-V controller

Material-handling safety zones

Supports zone-based machine stopping and restart interlock logic

PRODUCT PRECAUTIONS

- 1 Verify SZ-VH1 and the paired SZ-V controller before installation.
- 2 Place the safeguarded machine in a controlled lockout state.
- 3 Prevent optical-window contamination, impact, and mounting-bracket movement.
- 4 Confirm the 190-degree scan plane is free of unvalidated blind areas.
- 5 Configure protection and warning zones from the approved risk assessment.
- 6 Verify safety distance includes machine stopping time and response delays.
- 7 Challenge every zone boundary and test restart-interlock behavior.
- 8 Record validation results and secure configuration access before release.

ENGINEER FAQ

Q1 What isolation is required before installing SZ-VH1?

Place robot-cell perimeter guarding in the approved maintenance state, isolate every applicable power, signal, and stored-energy source, and prove the work area safe.

Q2 Which configuration check is essential when commissioning SZ-VH1?

Restore only the approved model-specific channel, range, address, scale, or interface settings and compare them with the physical installation before enabling the process function.

Q3 How can an engineer function-test SZ-VH1 after installation?

Apply a controlled input, reference, or limited output appropriate to safety laser scanner head, observe the system indication and diagnostics, and confirm the intended process response.

Q4 What should be checked if SZ-VH1 reports an unstable or incorrect value?

Check seating, supply, grounding, shielding, matched components, mechanical installation, and the signal path before changing configuration or replacing additional hardware.

Q5 Can SZ-VH1 be replaced by a visually similar model without review?

No. Verify the complete part number, electrical execution, connector arrangement, companion hardware, and approved software or rack configuration.

Q6 What commissioning evidence should be retained for SZ-VH1?

Retain the full SZ-VH1 identity, as-left wiring and settings, measured functional-test results, final diagnostics, and authorization to return the affected equipment to service.

Q7 Which installed hardware must be matched before fitting SZ-VH1?

Match the complete SZ-VH1 marking to SZ-V controller unit and approved head cable, then confirm the assigned KEYENCE SZ-V safety laser scanner position and approved system configuration.

Q8 How should the field connections for SZ-VH1 be recorded before replacement?

Record terminal or connector identity, polarity, shield, cable tag, channel assignment, and the as-found diagnostic state before disconnecting SZ-VH1.